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TRANSACTIONS

OF THE

ENTOMOLOGICAL SOCIETY

OF

LONDON.

VOL. I.

INSECTORUM HISTORIAM ELABORARE.

LONDON:

PRINTED FOR THE SOCIETY, BY RICHARD TAYLOR AND CO.,
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1812.

J. 26

INTRODUCTION.

HOWEVER simple the Linnæan mode of classifying and studying Natural History may be in itself, the most elaborate and the most accurate systematic arrangements of its various kingdoms must necessarily be more or less incomplete, in proportion as the various individuals, which they include, are more or less discovered and described. To ascertain the whole must necessarily be far beyond the powers, not only of one, but of many men; and with respect to the department of Entomology, the number, the minuteness, the concealed habits of the Insect Tribes, together with their necessary dispersion over the face of the earth, offer obstacles to the industry of the student almost insurmountable. With respect to British Insects, the members of the Society whose Transactions are now offered to the public, have associated themselves for the purpose of uniting their efforts in forming collections, and as far as possible in bringing the result of their labours before their fellow stu-

dents. The scope of the present introductory remarks being, however, a brief sketch of the history and design of the Entomological Society of London, together with a few notices respecting other societies, whose object was nearly similar, and which have existed previously to its formation; further observations respecting the science of Entomology will not be offered.

Before entering into any further account of the present Society, it may be advisable to offer such particulars respecting the others as have fallen under notice. The following is an extract from the preface to Harris's Aurelian, folio, 1766, first paragraph, and the work is dedicated "To the President and the rest of the Gentlemen, the worthy Members of the Aurelian Society."

"It is now above twenty years since I first began to collect and pursue the study of Insects; the first hint I received was from Mr. Moses Harris, an uncle of mine, who was then a member of the OLD Society of Aurelians, which was held at the Swan Tavern, in 'Change Alley: I was then too young to be admitted a member, though the strong inclination I had to be searching into this part of Natural History made me very desirous: I was then but twelve years old; so obliged to defer it till age

should ripen and furnish me with sufficient sagacity, whereby I might become fitting for the company of that ingenious and curious body of people. I was, however, deprived of that pleasure; for not long after the great fire happened in Cornhill *, in which the Swan Tavern was burnt down, together with the Society's valuable collection of Insects, Books, &c., and all their Regalia. The Society was then sitting; yet so sudden and rapid was the impetuous course of the fire, that the flames beat against the windows before they could well get out of the room, many of them leaving their hats and canes. Their loss so much disheartened them, that although they several times met for that purpose, they never could collect so many together, as would be sufficient to form a Society; so that for fourteen years, and upward, there was no meeting of that sort, till Phœnix-like our present Society arose out of the ashes of the old."

Under what precise regulations these Societies existed, has not fallen under notice. But in 1780 a small one was instituted in London, a copy of whose By-Laws now lies before me. It would appear to have denominated itself

* The fire happened the 25th of March, 1748.

The SOCIETY OF ENTOMOLOGISTS OF LONDON: its Minute-book is carried down to the first week in August 1782; and some of its members are still living. It appears that they were practical Entomologists, as the cabinet of Mr. TINLEY, one of them now no more, is in the possession of Sir JOHN ST. AUBYN, and contains a few unique moths. The cabinet of another, Mr. BENTLEY, also deceased, was sold by his Widow to Mr. HEAVISIDE, the Surgeon; and contained nine hundred and twenty-six Lepidoptera in the highest condition, and was rich in Coleoptera.

The objects of the AURELIAN SOCIETY, the progenitor of the present, and which was instituted in the summer of 1801, were "To form "a complete and standard Cabinet of the En- "tomological productions of Great Britain:— "to ascertain their names, uses, and distinc- "tions:—the places and times of their appear- "ance, food, œconomy, and peculiarities:— "and to point out to the public the readiest "and most desirable methods of destroying "such, as possess properties which are inimi- "cal to the welfare of mankind."

The ultimate end of all science, its application to the comfort and convenience of man, was not, as appears above, overlooked by the

AURELIAN SOCIETY. Great industry in collecting was exerted, and great liberality was displayed, by its members, towards forming a Cabinet. As their numbers increased, and their views enlarged, they altered their title to that of the Entomological Society in 1805, and finally in 1806 to that of the ENTOMOLOGICAL SOCIETY OF LONDON, embracing the study of Foreign Entomology, but more especially restricting themselves to the Insects of the United Kingdoms: it may safely be said that for industry, its members have been exceeded by few.

Besides the leading objects of the Society, it has been a regular custom to exhibit at its meetings, such insects as its members or their friends have been able to collect; with such information respecting their capture, &c., as has been thought worthy of notice. This custom has materially tended to increase the Society's knowledge of rare Insects; and from the liberality of the members has greatly improved their respective cabinets, as well as assisted the practical collector in his labours. And as persons not members are invited by the Society to lay their stores before its meetings for inspection, through the intervention

of its members, Entomologists who are desirous of extending their collections or their knowledge, or of bringing their discoveries into notice, will no doubt be ready to fall in with the Society's views.

Desirous of fulfilling, in every practicable way, the designs for which the Society was instituted, communications for its Transactions are invited from Entomologists in general; giving the preference to such as contain facts. If deemed sufficiently interesting, and the authors do not particularly object to it, they will as speedily as possible be laid before the public, with the rest of the Society's papers.

As the formation of a Cabinet and Library has already commenced, the presentation of rare Insects, or accurate drawings or plates of Insects, or of Entomological publications, will be acceptable. The Insects will be placed in the Cabinet, with suitable acknowledgements.

In offering its Transactions to the public, the Society means distinctly to be understood that it holds not itself responsible for the opinions of any author.

Concerning the value of the labours of the Society, as here presented to the world, the public will form its own estimate; the extent

of its private labours can only be fairly appreciated by its members; and herein it is hoped that it may lay claim to notice, and that the practical Entomologist may find it worth his while to enroll himself amongst its members and supporters.

*** Communications for the Society to be addressed to the Publisher; or to Mr. SURR, Surgeon, Aldersgate-street, London.

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TRANSACTIONS.

Review of the Rise and Progress of the Science of Entomology in Great Britain; chronologically digested. By A. H. HAWORTH, Esq. *F. L. S. F. H. S. and P. E. S.*

IT is the intention of the following paper to lay before the Society, in chronological order, an outline of the rise and progress of our favourite science in Great Britain, from its earliest dawnings to the present time. It is, however, a sketch merely that the author is prepared to give, or would lead you to expect: but it shall be his endeavour to enumerate, in the course of it, the various publications which have appeared in these kingdoms concerning Entomology, as far as they have come to his knowledge; and he will be equally solicitous to make at least some mention, and ever impartially, of their respective authors, and of the advantages which may ultimately be expected to result from a study of the Entomological science, and of the diminutive, but interesting objects which it embraces: small, it is true, if separately contemplated; but collectively forming, as Fabricius asserts, the largest portion of animated creatures; trifling, and even despicable as they individually appear to the illiterate part of mankind, yet

effecting unitedly, by slow degrees, some of the most important mutations in the scale of nature, and which their omnipotent Creator hath enabled them to perform with promptitude and facility.

Entomology is the science which teaches the knowledge of these minute beings; and its technical phrases assist us in attaining an accurate knowledge of their names, propensities, and distinctions. Yet, notwithstanding such are its present powers, our entire information concerning insects, from the memorable days of Aristotle, the great father of all natural knowledge, to those of the immortal Linnæus, was extremely imperfect and erroneous: and it is unquestionably to the writings of that celebrated man, that Entomology owes its elevation and claim, to rank amongst the sciences: for, anterior to the date of his transcendent works, there are none in which insects are either correctly defined as a class, or divided into natural and satisfactory orders.

Nor has the insect world, even in our times, had half the advocates for its investigation; nor are its individual objects, even now, half so well explained, especially in Britain, as those which compose the sister sciences of Botany and Ornithology. Nay, perhaps there is no portion whatever of Nature's productions, as yet, less thoroughly investigated than her insect tribes!

Neither is it to be expected that they can be so extensively, or so speedily explored by a few isolated individuals, as by the gradually accumulating and united efforts of an establishment like the present

Society. Wherefore, were persuasives necessary, I should feel it a duty incumbent upon me, honoured by being placed at your head, to exhort you, respectively, as well as collectively, to persevere in studying, and communicating to our meetings, the result of your observations in our favourite and interesting science: for not only the Society itself, but the public at large, will, I am not without hopes, look up to you, for a diffusion of the knowledge which you have not only already acquired, but which they will now have good grounds to expect, you will shortly possess. Nay, they may not only look up to you for the ascertainment and classification, and natural history of at least the insects of Great Britain; but they will moreover expect to learn of you something still more desirable and important. I mean the USES to which a knowledge of Entomology is capable of being applied; whether as medicine, or as diet, in agriculture, or horticulture, or in any other arts or sciences. And in this manner will you be able to disarm the shafts of ridicule, which are often discharged from the bows of malevolence, against the assiduous student of insects.

"Omne tulit punctum qui miscuit utile dulci."

But enough—we will hasten to our account of the commencement of Entomology in Britain: let us trace its slow progress, from its infancy to the present times; and in so doing, let ingenuous caution be our guide, "nothing to extenuate; nor aught set down in malice."

The first entomological publication extant in these kingdoms, is an extensive one in folio, written in the

Latin language, and published at London in the year of our Lord 1634, by

THOMAS MOUFFET,

entitled, "Insectorum sive minimorum Animalium "Theatrum. Olim ab Edoardo Wottono, Conrado "Gesnero, Thomæque Pennio inchoatum: tandem "Tho. Mouffeti, Londinâtis operâ sumptibusque; "maximis concinnatum, auctum, perfectum: et ad "vivum expressis iconibus supra quingentis illustra-"tum."

This work of many authors, as its title imports, is embellished with numerous wooden engravings, accompanied by long, tedious, and sometimes superstitious descriptions of the articles they represent, which are systematically divided into two books and 42 caputs. The figures are wretchedly executed, and far inferior to the botanical icons of the same, or even a much earlier period: yet the book is by no means destitute of merit; and no doubt considerably forwarded the progress of Entomology, at the era of its publication.

The first seven caputs or chapters, are entirely occupied with heavy details concerning the common Honey Bee. The 8th is entitled "De Vespis." The 9th, "De Crabrone et Tenthredine," and includes the Humble Bees. The 10th, 11th, and 12th, are "De Muscis," which include, along with the Linnæan Muscæ, various other Dipterous Insects, and likewise many of the Linnæan Hymenoptera and Neuroptera. The 13th caput treats "De Culicibus." The 14th, "De Papilionibus," and occupies above

twenty pages; in the margins of which are inserted, in an indented manner, 112 wooden figures, of the rudest execution imaginable; yet, for the most part, perfectly intelligible to any person tolerably skilled in the entomological science. The 15th caput is entitled "De Cicindela," by which the reader must understand the common Glow-worm (Lampygris Noctiluca), to be meant, and not the green scale-beetle, which is now called Cicindela Campestris. The 16th, is "De Locustis." The 17th, "De Cicadis et Gryllis." The 18th, "De Blattis." The 19th, "De Buprestide et Ceramboide." The 20th, "De Cantharide." The 21st, "De Scarabæis," which includes many of the larger Coleoptera, of various genera. The 22d, enlarges "De Scarabæis minoribus." The 23d, "De Proscarabæo et Scarabæo aquatico." The 24th, "De Gryllotalpa." The 25th, "De Pyrygono." The 26th, "De Tipula." The 27th, "De Forficula sive auricularia." The 28th, "De Scorpio, Formica, et Pediculis alatis." And the 29th, "De Cimice Sylvestri." After these, we arrive at the second book; which in the remaining caputs treats of the Apterous order of Insects: but incongruously blends along with them, all sorts of larvæ of other species, belonging to the alated orders; and likewise many of the Linnæan class of genuine Vermes! and even the Hippocampus, which is a fish!

The following extract from this curious and scarce old book, will serve at once as an example of its style, and superstition.

Mouffet, speaking of the Mantis religiosa of Lin-

næus, partly on the authority of Rondeletius, and partly from his own belief, has, at page 118, the following remarkable passage:

"Pectus habet longum, tenue, cuculo tectum, ca-
"put simplex: oculos sanguineos, satis magnos, an-
"tennas breves, pedes sex locustarum more, sed
"anterirnes multo crassirnes longioresque cæteris,
"quos quia junctos plerumque elevat (precantium
"ritu) a nostratibus Preque Dieu dici solet: totum
"corpus macilentum est. Tam divina censetur
"Bestiola, ut puero interroganti de via, altero pede
"extento rectam monstret, atque raro vel nunquam
"fallat. Cauda illi bifurca, setaceis duobus aculeis
"prædita; atque ut manuum elevatione vates refert,
"ita etiam et motus similitudine; neque enim ludit
"ut alii, neque saltat, neque gestit; sed lente obam-
"bulans modestiam retinet et maturam quadam os-
"tendit gravitatem."

In the year 1658,

EDWARD TOPSEL,

Chaplain of St. Botolph's, London, published along with a translation of Gesner's work on Quadrupeds, an edition, in the English language, of the above-mentioned "Theatrum Insectorum," of Thomas Mouffett, with figures, most probably from the same wooden blocks as the original.

The next Entomological author who claims a place in our account, is

CHRISTOPHER MERRETT, M.D. F.R.S.

Author, likewise, of a variety of medical and philosophical publications; and one of the earliest fel-

lows of the Royal Society, which originated in a few private members, who are said to have met once a week at Gresham College, in the year 1645, at the suggestions of Mr. Theodore Hake, a German; but were that same year dispersed by the turbulence of the times. They, however, resumed their meetings in 1660; and in their second attempt succeeded so effectually, as to become incorporated by Royal Charter, in 1663.

Dr. Merrett was born at Winchcomb, in Gloucestershire, in 1614, died in London in 1695, and is said to have been interred in St. Andrew's Church, Holborn, at the extraordinary depth of twelve feet.

In 1667 he published, at London, his "Pinax re-"rum Naturalium Britannicarum, continens Vegita-"bilia, Animalia, et Fossilia, in hac Insula reperta "inchoatus."

This is the first publication which gave any account of British Insects exclusively; and contains, amongst other things, a brief catalogue of such as Dr. Merrett knew to be indigenous, each accompanied with a concise descriptive sentence, by way of a name; yet such as may, in many instances, be understood; and as the Pinax is a very rare book, and the species of insects it contains by no means numerous, even for the time in which he wrote, we will here endeavour to gratify the Society with an enumeration of them, as far as they belong to the Linnæan, and our favourite order, Lepidoptera, in the author's own words; adding, in numerical order, at the close of the account, their present scientific, and English appellations.

At 197, and a few of the following pages of the Pinax, we read *exactly* as follows:

" Papilio, vel diurnus, a BUTTERFLY, vel noctur-
" nus, a MILLER, qui phalæna dicitur cujus species
" sequunter.

" Phalæna major. 2. Exigua argentea nigris
" maculis notata, *a Moth.* 3. Minor cum alis ex-
" ternis nigris, quinq; maculis internis rubris. 4.
" Minor gracilis cum quatuor sanguineis maculis in
" alis exterioribus. 5. Minor cum guttis sanguineis
" duabus circa extremitatem alarum. 6. Major
" cum exterioribus alis furcis internis aureis nigrâ
" lineâ fimbriatis.

" Papilio diurnus maximus, maximam partem fla-
" vescens, reliquam pene nigricans, 2. cum antennis
" porrectioribus, oculisq; nigerrimus.

" 1. Papilio diurnus medius ex pallido flaves-
" cens.

" 2. Cum corpore et alis externis nigrioribus,
" furcis hic illic maculis notatis.

" 3. Cum spinosis crenis fuscus.

" 4. Dorso nigro, ventre thoraceq; albis.

" 5. Corpore et antennis livescentibus, capite
" alisq; pallidis.

" 6. Oculo nigro, pupilla candida, alisq; Dra-
" contii modo variis.

" 7. Alis æreis micantibus venulis, et fimbria ma-
" culis nigris conspersa.

" 8. Antennis ex luteo rubescentibus, et alarum
" limbis multicoloribus.

" 9. Capite alisq; lacteis quibus maculæ furcæ
" et nigricantes.

" 10. Ultima parte Alæ exterioris clypeolo nigro, " quem medium punctus eburneus ornat, decorata.

" 11. Alis arctissimis, cauda lata et quasi plu- " mosa.

" 12. Corpore cinereo, caudaq; nigricante.

" Papiliones minimi. 1. Cum alis externis coc- " cineis externis purpurascentibus.

" 2. Alis cæsiis, et æruginosis, intus oculatis.

". 3. Pedibus purpureis, et corpore fuscis punctulis " pleno.

" 4. Alis oculatis cyanum cœlestem spirantibus.

" 5. Corpore gruino, in medium alarum luteo " cineritia.

" 6. Corpore, pedibus, capitulo, antennis cine- " ritiis.

" 7. Summe nigra, primisq; alis de argentatis.

" 8. Alis omnibus pallescente flavo nitentibus.

" 9. Alis conchatis, et clavatis, ex albo et obscure " rubente variis.

Having finished the transcript of the Lepidopterous department of the Pinax, we here subjoin, numerically, the present corresponding Latin and English names, which appear to belong unto them; viz.

1. Noctua Maura. Fab.. (The old Lady Moth.)

2. Tinea Padella. Fab. (The small Ermine.)

3. Zygæna Filapendulæ. Fab. (The six-spot Burnet.)

4. Zygæna Loti. Fab. (The five-spot Burnet.)

5. Bombyx Jacobeæ. Fab. (The Pink Underwing.)

6. Noctua promuba. Fab. (The common Yellow Underwing.)

---

1. Papilio Brassicæ. Lin. (The large White Butterfly.)
2. Papilio Cratægi. Lin. (The black-veined White.)

---

1. Papilio Rapæ. Lin. (The small White.)
2. Papilio Ægeria. Lin. (The speckled Wood.)
3. Papilio C. Album. Lin. (The Comma.)
4. Papilio Hyperantus. Lin. (The Ringlet.)
5. Papilio Rhamni. (fem.) Lin. (The Brimstone.)
6. Papilio Mægera. Lin. (The Wall.)
7. Papilio Napi. Lin. (The green-veined White.)
8. Papilio Urticæ. Lin. (The small Tortoise-shell.)
9. Papilio Galathea. Lin. (The marbled White.)
10. Papilio Jurtina. Lin. (The Meadow brown.)
11. Sesia Stellatarum. Fab. (The Humming-bird Moth.)
12. Papilio Sinapis. Lin. (The Wood White.)

---

1. Papilio Chryseis. Fab. (The purple-edged Copper.)
2. Papilio Rubi. Lin. (The green Hair-streak.)
3. Phalæna Grossulariata. Lin. (The Magpye Moth.)
4. Papilio Icarus. Lewin. (Common blue Butterfly.)

5. Papilio Pilosellæ. Fab. (The large Heath.)
6. Papilio Tages. Fab. (The dingy Skipper.)
7. Papilio Selene. Fab. (The small Pearl-border.)
8. Papilio Pamphilus. Lin. (The small Heath.)
9. Papilio Comma. Lin. (The silver Skipper.)

The above synonymy, it is conceived, will, on examination, be found as correct as the nature of it admits. But it is by no means an easy task to ascertain, with certainty and precision, insects so briefly, and so long since described.

In Lepidoptera Britannica, two or three of the above synonyms are indeed differently, and as we now apprehend, erroneously, applied. They are those which appertain to Papilio C. Album, Papilio Napi, and Papilio Galathea.

It may appear something like guess-work, that out of Merrett's two words, "Phalæna major," we should make Noctua Maura. But nevertheless there can be but little doubt of his having meant that identical species; because it is often found in houses, and is called "the *large Bustard*," in the northern counties to this day, which was formerly a term for *Moths*, as well as that of *Miller*: and because, from its size, it is more than probable that a writer of Merrett's time would place it at the head of a list of British moths; when Noctua Fraxini, and even Cossus ligniperda of Fab. were in all probability unknown to inhabit Britain; although since detected. Cossus ligniperda it is less likely to be than Noctua Maura: although the Cossus is not rare in our days;

yet it is not common. We never had the fortune to capture one in the winged state.

That Merrett should have been acquainted with Papilio Chryseis (the purple-edged Copper), as British, is indeed singular; but his words "externis purpurascentibus," by which I understand externis *marginibus*, &c. absolutely and pointedly *agree* with it; and as absolutely and pointedly *disagree* with every other known British species.

Papilio Chryseis is now so rare, that we never heard of but two specimens taken in Britain, and even one of them of doubtful authority.

In the year of our Lord 1668, was published in quarto, at London, along with three other of his tracts on Natural History, the ingenious

MARTIN LISTER's

"Tractatus de Araneis," a work possessed of great merit, and which for method, as far as it goes, is not even now, without great difficulty, to be improved: and what is surprising, it possesses a *specific character*, and occasionally, even *a sort of trivial name* to each species enumerated, prior to the general description, like the works of Linnæus; and may perhaps have been one of the earliest incitements that great man received, to adopt, *universally*, specific characters and trivial names; their vast utility being too obvious not to have made a suitable impression on his comprehensive mind.

The work is divided into two books, three chapters, and thirty-eight tituli, that is, species. The first

seven of the chapters ably treat on the natural history of Spiders. The eighth, entitled "De Medicamentis ex Araneis," is as follows, but, like the remedies of its era, abounds in futile and imaginary ideas.

" 1. Ex quovis humore maceratos Febres arcere.

" 2. Aranei ex oleo vel rosâ cocti ad aurem do-
" lentem."

" 3. Idem ad oculorum albugines et fluorem.

" 4. Ceratum ex araneis umbilico adhibitum, ad
" uteri suffocationem.

" 5. Idem ad lienis dolorem tumoremq; Plin.

" 6. Item ad furunculos impositum araneum.

" 7. Ex rosâ ad lactis coagulationem.

" 8. Item ad podagram et serpiginem exem-
" plastro.

" 9. Araneas stricti allegatas vulneri, sanguinem
" sistunt. Cels. Plin.

" 10. Item ulcera curant, conglutinant, sanie pro-
" hibent, inflammationem arcent.

" 11. Item ad narium hæmorrhagiam, ad men-
" strua intus forisve datæ.

" 12. Quidem cinere telarum ad eadem uti ma-
" lunt.

" 13. Ova Araneorum ex oleo nardino denti do-
" lenti adhibita. Galen.

" 14. Eadem ad tertianam propinata."

Next follows "Aranearum Angliæ Tabula," which divides such species as the author had investigated, into

" Octonunculi, and

" Binunculi;

and the first of these again into

" Aucupes, and

" Venatorii."

The Aucupes are then subdivided into

" Reticulata Scutulata, and

" Reticulata Conglobata, and

" Telas lintiformes," &c.

and the Venatorii, into

" Lupi, propriè sic dicti

" Cancriformes, and

" Phalangia, sive Aranei

" Pulices assultim ingredientes."

A copper-plate, containing 38 figures, is adjoined, for the purpose of explaining the above arrangement, and which closes the first book.

The second book is occupied by an able and scientific, but too verbose, description of the species; in which, as above mentioned, and unquestionably for the first time, *specific characters* are given apart from the general descriptions, and in which the first word serves as a *trivial* name.

The following extract, containing the specificæ differentiæ of our author's five first species, will show him to be a far better describer of Entomological subjects than any who preceded him.

1. *Araneus subflavus*, alvo precipuè in summâ sui parte et circa latera albicante, plenâ; oculis nigris pellucidis in capite albicante.

2. *Araneus rufus*, sive avellaneus, cruciger, cui utrinque; ad superiorem alvi partem quasi singula tubercula eminent.

3. *Araneus ex viridi inauratus*, alvo longiusculo pretenui.

4. *Araneus cinereus*, sylvaticus, alvo in mucronem fastigiatâ, seu triquetra.

5. *Arcneus viridis*, cauda nigris punctis utrinque ad marginem superne notata, ipsoano croceo.

The next Entomological author, in chronological order, was a surgeon of London; and a naturalist of an incomparable and unwearied spirit in collecting and publishing the productions of Nature, in all her departments; although, as Dr. Smith observes, in the Transactions of the Linnæan Society, he was, perhaps, rather more a man of zeal in such pursuits, than of science. I mean the celebrated

JAMES PETIVER;

who, like Dr. Merrett, was one of the early Members of the Royal Society; and whose Musæum, after his decease, was purchased by his wealthy friend Sir Hans Sloane, for no less than £.4000; a great sum in those days; which, as Dr. Pulteney observes in his "Sketches," at once proves the goodness of the Petiverian collection, and the affluence of the Baronet. It eventually went, along with the vast stores of natural productions amassed by Sir Hans, to form the basis of that *National Institution*, the British Musæum.

Petiver published at London a variety of miscellaneous zoological, botanical, and other treatises, illustrated by several thousand figures, each of which (like the items of Merrett's Pinax) is explained by a concise and descriptive sentence, which served as a

name; and inter alia, he gave a great many, and for the times, well-executed figures of entomological articles, both indigenous and exotic.

He likewise was the author of one work, entirely entomological, entitled, "Papilionum Britanniæ "Icones, Nomina, &c. of about eighty English "Butterflies, being all that have hitherto been dis-"covered in Britain; by James Petiver, F. R. S." London, 1717, folio. It is a valuable publication to the student in British Lepidoptera, and its use is not even now completely superseded; though the objects delineated are certainly not all distinct species; many of them being merely sexual variations: but amongst others, there are two English species of Papilio depicted, which we have never yet been able to find or hear of in any collection or book now extant, either exotic or indigenous; although we have diligently endeavoured so to do: and have even been to the very spot where Petiver says they were captured; and at the proper season, for at least one of them; and accompanied by one of the Members of this Society; but notwithstanding our united efforts, completely without success.

Both these interesting, though at present latent Papilios, are noticed in my Lepidoptera Britannica, at pages 53 and 54, with a proper reference to Petiver's own words, which may serve as a specimen of his mode of description, viz.

"1. Papilio Fritillaria tessellata serotina subtus "straminea, Straw May Fritillary, pretty common "in Cain-Wood." *Pet. Pap. Br. pl.* 1. *tab.* 3. *fig.* 11. 12.

" 2. Papilio oculatus Hampsteadiensis ex aureo " fuscus. Albin's Hampstead Eye, where it was " caught by this curious person, and is the only one " I have yet seen." *Pet. Pap. pl.* 2. *tab.* 5. *fig.* 2. et 6.

Neither were the above the only rare Papiliones which appear in Petiver's work; for amongst others he depicts Papilio Daplidice (the green-chequered White) and assures us, that it likewise was caught near Hampstead; where, however, we are not aware that it has since been found: nor indeed elsewhere in Britain, (for the account of it in Lewin's work is not satisfactory), till my friend, the Reverend Dr. Abbott, of Bedford, took a faded one in Whitewood, near Gamlingay, Cambridgeshire, in the month of June 1802: where, at the same time, he also captured the beautiful and rare Papilio Lathonia, which is another of the interesting species figured by Petiver in the above work; and whose delineated specimen was likewise a Gamlingay one.

The publications of Petiver have been of essential service to Zoology and Botany, and are, even now, as works of reference, in high repute; but they have become scarce, though a second edition of them was got up a great many years after the author's decease, which happened in April 1718, at his house in Aldersgate Street.

SIR HANS SLOANE,

In the year 1725, published, at London, in folio, the second volume of his Natural History of Jamaica." The second book of which treats at large on the In-

sects of that island, arranging them in six distinct chapters. The first of which treats "of such as "suffer no change in their forms, and have no feet." The second, "of such as are commonly believed to "suffer no change in their forms, and have six, or "more feet." The third, "of Libellulæ, Perlae, or "Adderbolts, Wild Bugs, Locusts, and Crickets." The fourth, "of Beetles." The fifth "of Erucæ, "Aurelia, or Coffins, Butterflies, and Phalænæ, or "Moths." The 6th, "of Insects, with membranace-"ous wings, as Ants, Bees, Wasps, Flies, and Gnats." The whole are elucidated by a great number of uncoloured figures on several folio copper-plates.

We now arrive at one of the brightest ornaments in the history of our science; the great and pious

RAY.

John Ray, the son of a blacksmith, was born in the year 1628, at Black Notley, in Essex: he was bred up to the Church, and finally became the greatest naturalist of this, or almost any other country. His knowledge of Nature, and of her manifold productions, was equalled alone by his mild and pious deportment as a divine.

He was the author of a great many invaluable works, on divinity, morality, and natural history; but, published nothing on Entomology during his life; although he left, for that science, a "mo-"numentum ære perennius,"—his celebrated "His-"toria Insectorum," nearly ready for the press; which was published posthumously by his friend Dr. Derham, at the command of the Royal Society, as

hereinafter mentioned. But prior to this, yet some short time after his decease, his "Methodus Insecto-" rum," was published: a work which we have not seen, and which was probably intended as introductory to the "Historia."

According to Dr. Pulteney, in page 269 of his "Sketches," Ray, at the advanced age of 75, "be-" gan his work on *Insects*; to which he had been " encouraged by Dr. Derham; and for which he " had been accumulating materials during many " years." " He (Ray) tells us, that in the latter " years of his life he had discovered 300 kinds of " *Papilio*, diurnal and nocturnal; and knew there " were many more. The *Beetles*, he observes, were " as numerous, and the Flies not less so. I mention " these circumstances (continues Pulteney) to prove " the extensive knowledge of Nature, which this " extraordinary man possessed, at an era when he " stood so nearly alone in these branches of science. " He did not live to finish this work. It was pub-" lished by Dr. Derham in 1710, in 4to. pp. 398."

To pay due tribute to the virtues and extensive knowledge of this great and meritorious man; or to make deserved mention of his numerous works, is indeed a task beyond the essays of a feeble pen: but, aided by the Biographic Muse, I will endeavour, at least not to dishonour, the memory, or the actions of a character so much, and so justly revered.

He was a man, meek, placid, and benevolent by nature; studious and learned by unwearied application;—religious, and revered, and full of academical

honours, by virtue of his holy profession; and by the due practice of it:—he was likewise an extensive, and successful traveller and writer; and one of the most deserving Members of the Royal Society: and so multifarious were his publications, that even a bare enumeration of their titles would be thought too extensive for our present sketch.

" He was a man, take him for all in all, we shall " not look upon his like again."

That great, but perhaps *too partial* Naturalist, and our countryman, the zoolological Pennant, conceived, if possible, still higher of Ray; and thought that he ranked in the scale of Natural Historians even before the illustrious Linnæus; for, speaking in some of his works concerning that immortal man, he says, *after Ray*, he believes Linnæus to be the greatest naturalist that ever lived.

'Tis true Ray lived in a darker age than Linnæus, and with fewer books to guide his researches; and it is equally a fact, that, notwithstanding Ray has been accused of making too many species of plants, &c. which was the fashion of his day; it is equally a fact, I repeat, that time, the true touchstone of all things, has already proved, that if Ray did make too many species, the great Swede erred about as much the other way; by making too few! But alas! where is mundane perfection to be found?

The " Historia Insectorum, autore Joanne Raio, " &c. opus posthumum Jussu Regiæ Societatis Lon- " dinensis editum," was published as above mentioned, by Dr. Derham, in 1710; and to it is subjoined, " Appendix de Scarabæis Britannicis, au-

" tore M. Lister, S. R. S. ex M. S. S. Musæi Ash-
" moleani."

The descriptions given in the " Historia Insectorum," especially considering the dark ages of this science in which they were written; are master pieces of clearness and precision; and such as, in general, render it tolerably easy to ascertain the articles they belong to; although unaccompanied by figures: but with respect to the arrangement and distribution of its materials, the work is in both these essential points, unquestionably very far inferior to that of Linnæus; and indeed, in some particulars, is not much superior to its predecessors. For, like them, it also incongruously blends the Linnæan class of Vermes, with the genuine and natural one of Insects! And yet Ray very often, although not invariably, describes those most material parts of his Insects, their *antennæ*, (which alone separate them from the Vermes), in the manner they demand, and deserve. And his work is ever elucidated, by the most candid and laudable references, to his precursors in the science, and in their proper places: which is really much more than can be said of many specious and costly publications of the kind which succeeded his, in this country, even to within less than forty years back..

The following extract is given, at once as a specimen of the mode of the " Historia Insectorum," and of its descriptive powers. Ray thus speaks of the Papilio Podalirius (the scarce Swallow-tail.)

" Papilio alis amplissimis, pallidis flavicantibus,
" exterioribus areolis transversis nigriis varis, interi-

" oribus caudatis, maculâ in imo cæruleâ. Diurna-
" rum tertia. *Mouff.* Hist. p. 99.

" Propè Liburnum Portum in Etruria invenimus,
" atque, ni malè memini, etiam in Anglia. A prima
" specie (Papilio Machaon) differt, quod pallidius
" flavicet, quod alæ exteriores lineis nigris pingun-
" tur, quod interiorum alarum ecphyses quam in illa
" longiores sint, totaque istarum extima lacinia glas-
" tiva, ut loquitur Monfettus." Ray, Hist. Ins. p. 111.

With respect to the Ashmolean Appendix to Ray, " De Scarabæis Britannicis," although it is short, and gives no synonyms, it is still an interesting tract, and possesses considerable merit, in dividing its materials systematically into sections and heads; and these again into what the author, Martin Lister, so respectably spoken of above, in our account of his work on Spiders, terms " Tituli," that is, species; describing each minutely, but often too verbosely: and mentioning their food, times and places of appearance, as far as known, and likewise their dimensions. But the author greatly diminishes the merit of his work, by improperly blending with the genuine Coleoptera, many of the hemipterous Cimices of later writers; which are strikingly different, and occupy his fourth, which is also his last section.

As a specimen of the manner of this tract, a part only of the description of Curculio Lapathi of Linnæus is subjoined: the ancient spelling of which appears to have been Gurgulio.

This species is selected for two reasons; the one because it is a well-known insect; and the other be-

cause, according to this ingenious author, it possesses, though feebly, the faculty of voice; which is a piece of information, for which I am altogether indebted to this tract. Few, indeed, are the numbers of the Insect world, the Hymenoptera excepted, on which our great Creator hath thought proper to bestow the powers of voice. The promised extract is as follows:

" Ei caput exiguum, quod humeri gibbi excipiunt.
" Alvus plena ventricosa retusior.
" Humeri et alarum thecæ maximam partem ex
" leucopheo rubescunt. Ipse venter nigrescit, va-
" riantur iisdem coloribus.
" Tota bestiola scabra est innumeralibus tuber-
" culis vel pilosis vel crustaceis.
" Lacessitus vocem quærulam dedit."

This commendable article may now be dismissed, after observing that it contains no figures; and enumerates forty species only.

The works which next arrest our attention, are those of

ELEAZAR ALBIN;

who, in the year 1731, published at London, in 4to. his " Insectorum Angliæ Naturalis Historia illustrata
" Iconibus in centum tabulis æneis elegantur ad vi-
" vum expressis, &c."

This publication does not at present form a part of our Entomological Library; but we recollect it to be the most elegant one of its day; and to contain principally, but not exclusively, such Lepidopterous Insects as the author, or his friends, had reared from

the state of caterpillars: exhibiting them picturesquely feeding, on their proper plants, and in all their phases, or mutations: the whole highly coloured, and accompanied by descriptions in the English language. Yet Albin's is a work but poor in science; even for its time: and his Insects are sometimes depicted in tints more remarkable for gaudiness than fidelity: this, however, may probably be no more than merely the fashion or error of its era.

In the year 1736, was likewise published in 4to. at London, "A Natural History of Spiders, and "other curious Insects, by Eleazar Albin; illustrated "with fifty-three copper-plates, engraved by the "best hands."

The number of species enumerated in this work, the author informs us, is near two hundred; of each of which he gives an English description, but no reference to any preceding author concerning them. This is much to be regretted, especially as so good a work as the one of Lister on Spiders, above enumerated, had appeared, and which might much have aided our author in his investigation of the obscure and interesting tribe he had undertaken to elucidate.

In speaking of the medical qualities of common house spiders, we fear he is superstitiously credulous in asserting that a *large one*, enclosed in a box, and kept in contact with the patient's skin, near the stomach, is capable of *curing obstinate agues!*

Three years only after the preceding work made

its appearance, that multifarious writer on agriculture, horticulture, and on various departments of natural history,

PROFESSOR BRADLEY,

published at London, in octavo, his "Philosophical "Account of the Works of Nature," which was well received by the public; and so indeed it deserved. It contains, inter alia, some general entomological matter, and also a few engravings of Insects: but it cannot be supposed to have much advanced our knowledge, if it did our love and practice of the entomological science: for it is, in fact, in several instances, quite as uninformed as any that preceded it: as will but too glaringly appear from the following citations.

In page 191 of this work, we read as follows:

"Mr. Dandridge observes, that there are gradual "alterations from a perfect *Moth* to the *Bee* kind; "and, indeed, if we examine the 26th plate, we may "find a just proportion from one to the other. The "*Antennæ* of all are alike, and their bodies are just "different enough to be distinguished from one "another."

The figures which Bradley alludes to on the said 26th plate, represent the four following Insects, there found sufficiently well delineated, with the exception of the antennæ of the Apis, which are altogether blameably and falsely made like those of a sphinx, that they may the better correspond with the text.

1. Sphinx stellatarum. (The Humming Bird Sphinx.)

2. Sphinx Fuciformis. (The broad-bordered Bee-Sphinx.)

3. Sphinx Bombyliformis. (The narrow-bordered Ditto.)

4. Apis terrestris. (The common Humble Bee.)

The last of these Insects, although the learned Professor found such difficulty in distinguishing it from the others, is not only of another genus, with different antennæ; (notwithstanding the Author's assertion and figure), but even of another class! an ample, and a humiliating proof this, after so good a work as Ray's had appeared, of the low ebb of Entomology, and of entomological ichnography in this country, no longer since than the year 1739.

The entomological ignorance and credulity of the same period, appears equally conspicuous in the following passage, from page 212 of the same work, on that rare and singular insect, the Mantis Siccifolia of Lin. a specimen of which I possess from the Leverian Museum.

"The *Folium Ambulans*, or *Walking Leaf*, (says "Bradley), which I have already treated of in my "*New Improvements of Planting and Gardening*, is "a creature which, if we take the story of it right, "partakes both of *Insectal* and *Vegetative* life, being "nourished, as I have observed, as well by the juices "of the *tree*, which the mother *insect* lays its *eggs* "in, as by its own, which I suppose are so united, "one and the other circulate equally in the body of "the *insect*, till itself, with the *leaves* joining to it, "drop from the *tree*, and creep upon the ground."

At page 190 of the same work, we learn, interest-

ingly enough, that the following were very eminent collectors of Insects in Bradley's time; although it does not appear they ever wrote any thing upon the subject; but alas! where are their collections now? or where the records of the knowledge they acquired?

"THE DUCHESS OF BEAUFORT,

"has, I believe, (says Bradley) bred a greater variety "of *English Insects* than were ever rightly observed "by any one person in Europe.

"SIR HANS SLOANE,
"MR. VINCENT,
"DR. RUYSCH, AND
"MR. SEBA,

"have surprising collections, where we may observe "many thousand varieties of foreign Insects; and "also in that curious Cabinet of

"MR. DANDRIDGE,

"who has so industriously collected the Insects of "our own country: some of the moth and butterfly "tribe being so large as to measure eight, nine, and "ten inches between the extreme points of their "wings, especially those which are bred about Am-"boyna in the East Indies."

According to Dr. Pulteney, in his "Progress of "Botany," (vol. ii. p. 129—133), Bradley considerably increased our knowledge of Botany, Agriculture, and Horticulture:—was the author of more than twenty separate publications on these heads, between the years 1716, and 1730:—was a Fellow

of the Royal Society:—and was chosen Professor of Botany for the University of Cambridge in the year 1724. Yet, notwithstanding such distinguished acquirements, his private character (impartial justice commands us sorrowing to record it) was a bad one; having procured the Professorship in a clandestine and fraudulent manner: and afterwards neglected to fulfil its duties; so much so, that he was allowed the nominal title only of Professor; and even that the University had in contemplation to deprive him of, on account of increasing improprieties, towards the close of his life. He died in 1732.

In the year 1758, after a total inaction of the science, as to printing, for nearly twenty years, that voluminous writer

DR. JOHN HILL,

published at London, in folio, an English translation of Swammerdam's large work on Insects, which abounds in heavy details on many interesting points, and must have advanced the physiological, if not the practical, department of the science.

And in 1773 the same author published "A Decade of curious Insects, some of them not described before: shown in their natural size; and as they appear before the lucernal microscope; in which the solar apparatus is artificially illuminated. With their History, Manners, and Places of Abode; on ten quarto plates, and their Explanations, drawn and engraved from nature, by John Hill, M. D. Member of the Imperial Academy."

The Insects in this Decade being very minute,

figures immensely magnified are given to elucidate them--but they are not faithful; and scientific descriptions in English are subjoined, as well as their natural history, and various interesting observations. Those concerning plate the ninth, on which is figured "Alucita pallida (the straw-coloured Chinch)," are so very extraordinary that we cannot refrain from transcribing them, though long.

"This is a creature (says our author), very strange "in its nature and history, and which once came as "strangely before me. A studious gentleman, very "subject to the head-ache, which he and his phy- "sician both attributed to great attention, sneezing "one day with violence, as he was writing, saw some "atoms a moment afterwards upon a sheet of white "paper, that lay upon his table; and they plainly "moved: he doubled up the paper, and brought it "to me: when we laid a parcel of these moving "particles before the lucernal microscope, they ap- "peared of the size and figure represented at plate "9; and were in continual motion; vibrating their "antlers, shaking their wings, and turning up their "tail to their heads, in manner of ear-wigs, but with "an incredible swiftness.

"'Twas palpable they had been discharged from "his nose; and 'tis very easy to see whence they were "thrown, and to understand how they might have "caused intolerable pain, while they were thus rous- "ing and moving their irritating hairs and feathers, "upon a part where the very substance of the brain "is almost naked.

"I had seen the same species inhabiting the flow-

" ers of the plant Mignionette; and on asking, found " he had that plant in his chamber."

On the tenth plate, Dr. Hill figures, " Alucita " fulva (the Tawny Chinch);" and concerning it observes, " the creature has, when living, all the mo- " tions of the preceding kind, but stronger; as its " body seems more muscular: and the power it has " of raising its bristles, as the Porcupine, must add " greatly to the irritation, when it has got into a ten- " der part.

" Whether, and how far, head-aches are to be " traced from these little creatures, is a subject yet " for more inquiry; but 'tis worth the pains. Many " have this pain from the smell of flowers. Some " have been found dead with quantities of violets, " and other flowers in their chamber. Physicians " have attributed these deaths to the powerful odour " of those flowers; but that they should be owing to " these creatures, is much more probable."

Thus far the author; but however ingenious his arguments and conclusions may be, we cannot bring ourselves implicitly to believe in them; neither are we certain that the Chinches said to be apparently sneezed up by the studious gentleman, as above related, were actually and bona fide ejected from his nostrils; yet still the subject is interesting, and deserves further inquiry.

Neither are we satisfied at the Doctor's having called these Insects, " Alucitæ and Chinches," because the former name, had already been applied by Linnæus to one of his families of Moths, the Plumes; and because the term Chinch, was also in use, ac-

cording to Sloane, in his natural history of Jamaica, for the Cimex Lectuarius, &c.

In the year 1769,

JOHN BERKENHOUT, M. D.

published in English, in small octavo, the first volume of his "Outlines of the Natural History of Great "Britain," containing the animal kingdom; and amongst other things, as many Insects as he could ascertain, arranged according to the Linnæan system, amounting to about 600 species.

Although the number is so very small, and without synonyms, and although many species given in the works of his predecessors are omitted, yet still, this work very materially aided the business of Entomology in Great Britain, and this chiefly from its familiar and intelligible style; which is perfectly a novel one; viz. Linnæan generic and specific names are given, the latter in the margin, more Linnæi, but no specific character; instead of which, a regular *description* is placed immediately after the specific name.

The following extract will serve as an example:

"PAPILIO. Antennæ clavated. Wings, when "at rest, erect. Diurnal.

"1. Machaon. *Royal William, or Swallow-tail* "*Butterfly*. Black and Yellow. Body black above, "yellow on the sides and belly. Eyes, Antennæ, and "trunk black. First wings rounded, in the middle, "yellow, with black lines; near the posterior verge "eight yellow semilunar spots; second wings black

" and yellow, with two long tails, and two orange " spots, surrounded with blue, at the posterior angle. " Caterpillar large, smooth, pale green, with black " transverse stripes spotted with orange. On um- " belliferous plants. Breeds in May and July."

In 1770, that foreign but universal naturalist and voyager,

JOHN REINHOLD FORSTER,

published at Warrington, in octavo, " a Catalogue " of British Insects."

This was a mere Catalogue of Latin names, but the most extensive yet made, amounting to about 1000 species; and the Author gives it as the precursor only, of a perfect Entomologia Britannica, which it appears he meditated the publication of, but never performed; and invites all Entomologists and Collectors to communicate specimens to him, offering them in return such Insects as were duplicates with him, and which he notes in the catalogue by a particular mark. It was not for want either of public encouragement, or personal ability, that this second attempt at an Entomologia Britannica miscarried; but, probably, owing to its great projector's engaging to accompany the celebrated Cook, in his second famous voyage round the world, as naturalist to the expedition; and which produced a vast harvest of other materials, which it was reserved for the lucid pen of Forster to explain.

In 1771 the same author published at London, in 8vo. " Novæ Species Insectorum, Centuria 1."

This tract consists of scientific descriptions, more

Linnæi, in Latin, of 100 Insects, some of which were British, and here first made known.

The year following, 1772, "The Naturalist's and "Traveller's Companion," was published in octavo, at London, by

DR. LETTSOM;

giving directions how to collect and preserve all sorts of natural productions; and is a very useful book, especially to beginners; and has been twice republished, with additions.

In the same year, 1770, we arrive at the time of publication of a beautiful work on Entomology, that of my late and regretted friend,

D. DRURY, F. L. S.

in one vol. 4to. printed at London; containing comprehensive descriptions in English and French, with an index of Linnæan names at the end, and a great many coloured copper-plates of such interesting exotic Insects, as had not been before, or insufficiently figured. The icons were executed by Moses Harris, in his best style; and are far superior to any of their predecessors in Britain.

It is also unquestionably the first work in this country in which the trivial names of Linnæus are suffered to make their appearance; and although only given in the shape of an index, their extensive value throws a lustre on the utility of the work, which, unaided by them, it would not have reached. A second volume was published in 1773, and a third added in 1782: and even a fourth would have ap-

peared if the author had lived much longer; as he himself assured me, some time prior to his decease; wherein would have been delineated some of the gigantic and extraordinary Insects of Demarara; in which remote territory he had successfully employed a collecting agent.

Mr. Drury's Cabinet, was one of the most extensive ever made; and is said to have contained in species and varieties, the surprising number of 11,000 insects. He spared no pains or cost in getting them together; and, like Petiver of old, sent printed instructions, in various languages, all over the world for that purpose, by captains of ships and others.

Soon after his decease, at an advanced age, which happened about two years since, his valuable collection was disposed of in London, by public auction. The sale occupied three entire days, and was by much the most considerable one of its kind ever known; producing about £.650: one single Insect in it, viz. the one figured on the fortieth plate of his third volume, selling for no less a sum than twelve guineas! Between the periods of publishing the different volumes of Drury's book, namely in the year 1773, appeared the splendid work of

BENJAMIN WILKS,

in imperial quarto, printed at London, and entitled "One Hundred and Twenty Plates of English Moths "and Butterflies."

The insects in this beautiful publication are figured

picturesquely sporting on their favourite plants, and in all their interesting stages of life, after the manner of Albin, but far more sumptuously: and are accompanied by English descriptions of the Larva and Pupa; but not of the Imago: yet they are intirely, and we think blameably, destitute of Latin generic and specific names, and much-wanted references to the inestimable pages of Linnæus, which now began to be in general use; consequently, they are intelligible only to adepts in the science, or such as are acquainted with their provincial appellations.

Wilks, amongst others, depicts that rare Insect the Bombyx Pini, Lin. (Pine Lappet Moth) a British specimen of which we never yet have seen, and says he found its larva upon a whitethorn, near Richmond Park, in September 1748.

He likewise delineates, in the most charming and complete manner, giving all its phases, from the egg to the wing, the lovely Noctua Delphinii, Fab. (Pease-blossom Moth), along with its favourite food, the wild larkspur, (Delphinium consolida), and says, "that it has been bred in England by the Honour-"able Mrs. Walters; and by Nathaniel Oldham, "Esq. but that it is very rare."

A wing of this beautiful moth is said to have been found in a spider's web at Bulstrode, by that great patroness of natural history, the late Duchess of Portland; and another in Saint James's Park: and my friend Mr. Jones, of Chelsea, has a very perfect specimen, which he captured in his garden a few summers since. Further than the above instances, this species is not known to us as British; and even

in Germany is so scarce, as to sell there occasionally for a guinea a pair.

This work may be now dismissed, observing that its figures are not so chastely coloured as those of Drury: and by remarking that this was a period fertile in the produce of Entomological Works; for in the same year, 1773,

THOMAS PATTINSON YEATS

published in octavo, at London, his "Institutions of "Entomology, being a translation of Linnæus's "Ordines et Genera Insectorum; or systematic ar-"rangement of Insects; collated with the different "systems of Geoffroy, Schæffer, and Scopoli."

This appearance of the "Institutions," must have extensively aided the business of Entomology in Britain, and is, indeed, an excellent publication for its time; and is still so, for those who only study the Linnæan Genera of Insects: but it labours under one radical inconvenience, in totally wanting explanatory figures; which, in our humble opinion, are desirable in all works of its kind, to render them intelligible. The Author himself regrets his not having been able to give them, on account of their attendant expenses. The work, however, is ably executed, and deserves respect: much more so, indeed, than its author; for here again impartial justice demands of me, sorrowing, to add, however painful and humiliating the task, that Yeats was more esteemed as an entomologist, than as a man: and that after a life by no means exempt from frau-

dulence and vice, he unhappily fixed an eternal stain upon his memory, by committing suicide in 1782!!

" If fate forbears us, fancy strikes the blow,
" We make misfortunes, *suicides* in woe."

YOUNG.

A new edition of the " Institutions," with figures, explaining all the Fabrician Genera, now almost universally adopted, would be a capital addition to the science of Entomology in Britain. But the time is not yet mature for such an undertaking.

About this period, but having mislaid the books, the exact time cannot be stated, my late ingenious friend,

WILLIAM CURTIS, F.L.S.

founder of the Brompton Botanic Garden, published two entomological works; the one " An Essay on the " Brown-tail Moth;" the other, a " Translation of " the Fundamenta Entomologiæ of Linnæus;" both ably executed, and both calculated to render the science more attractive and useful, than it had before appeared. To the latter, is prefixed a chronological catalogue of entomological authors; a very desirable tract—the want of which has been greatly experienced in compiling this paper, and rendered it necessary to investigate and arrange the dates of all the works here enumerated, from the shelves of my library.

We next arrive at a name memorable in the annals of British Entomology, that of

MOSES HARRIS,

who, although a man of no great science, and still less learning, has contributed more, perhaps, than all our entomologists who preceded him, towards the knowledge and natural history of British Insects. He was the first, also, who attached to his Insects, as far as he knew them, their inestimable generic and specific names, after the matchless manner of Linnæus; which forms, as it were, a new æra in the science; and which, far above all others, facilitates our investigation of it.

"Nomina enim si periunt, perit et cognitio rerum."

It is moreover said of Moses Harris, that he was one of the very first who endeavoured to form "A "Society of Aurelians" in this country, for the purpose of recording and diffusing the knowledge he had acquired; of which, however, nothing further need be mentioned in this place, as it will be much more appropriately treated of by our able Secretary, in a paper on the "History and Intentions "of the Entomological Society," which he is preparing to request the Society's acceptance of:—and which, should public approbation encourage it, will be succeeded by a series of papers from my own pen, concisely explaining the contents of the Entomological Cabinet.

In the year of our Lord 1775, "The Aurelian's "Pocket Companion, &c. by Moses Harris," was published in 8vo. at London; a work which, although apparently insignificant, has contributed most materially to the practice of Lepidopterous Entomology

in Britain. It is a catalogue, alphabetically digested, of above 400 Lepidopterous Insects, with English, and, *for the first time in Britain,* Linnæan names, as far as known; accompanied by concise specific characters in English; and a mention of the peculiar food, and proper times and places of appearance, of both the Larvæ and Imagos; and also the expanse of the wings of the latter, in inches and quarters: to which is very commendably added, at the end, an alphabetical index of the Linnæan specific names, by themselves: and by way of frontispiece, is given a coloured Plate, explaining "a Table of Terms used "in the descriptions of the various parts of a But-"terfly, referring to the plate wherein they are accu-"rately delineated."

In the same year, 1775, Harris likewise first published, in folio, at London,

"The Aurelian; or Natural History of English "Insects, namely, Moths and Butterflies."

"The Aurelian," was unquestionably the most sumptuous and splendid publication of its kind, which had appeared in this or almost any other country. The Insects are very elegantly delineated, and in the most picturesque style imaginable, upon their favourite plants. And so closely after the manner of a beautiful and similar work, published but the year before at Amsterdam, by Jacob L'Admiral; that Harris has even been accused of making too free with the charming designs of the Dutchman. But, be this as it may, the masterly execution of "The Aurelian," sheds additional lustre on the pencil of Harris; who, by profession, was an artist; and, pa-

tronized by Drury and others, successfully employed a vast portion of his time in delineating from Nature, some of the choicest beauties of her Insect world.

In the year 1782, he published in 4to. at London, his "Exposition of English Insects, &c." which is illustrated by 51 copperplates, whereon are depicted about 500 figures of Insects, of all the various orders; but although well done, they are much inferior to "The Aurelian." The whole accompanied by Latin specific names; (which, however, are often inelegant, and even ungrammatic) and descriptions in English and French; and at the end of them, occasionally, references to the valuable pages of Linnæus.

Harris was likewise the author of a little work, in quarto, published at London, without a date, entitled "An Essay, preceding a Supplement to the Aurelian; "wherein are considered the tendons and membranes "of the wings of Butterflies:" in which he ingeniously gives a method of arranging the Papiliones into natural families, from the difference of structure observable in the nerves of their wings.

In the year 1781 appeared, in English and French, at London, in 4to. by

JAMES BARBUT,

"The Genera Insectorum of Linnæus, exemplified "by various specimens of English Insects, drawn "from nature."

This valuable work has the distinguished advantage of first making known, by figures, the system of Lin-

næus on Insects, and the various genera which it contained. It elucidates them by nineteen quarto, and two folded folio copperplates, and is a publication indispensably necessary to the student of Linnæan Entomology; which had now for some time been universally adopted.

But Barbut does not show himself an entomologist of much penetration, when he says, "the number of "genera, as well as the families into which many "are divided, might with great propriety be re-"duced; for instance, the Curculiones and Attelabi "might be united; and in like manner the Ceram-"byces and Lepturæ."—*Vide* Preface, page xiv.

The fact is, the immense number of Insects discovered since

LINNÆUS

wrote his admirable works, requires not only far more genera, but even more orders, than he found it necessary to make: and many more he would himself unquestionably have made, had he seen but half the species which we now possess. What could he now have done with genera, containing thousands of species? or where would even his transcendent genius have found for them, different and discriminating names. Yet such would have been Curculio, Phalæna, and others!

As the entomological system of the great Linnæus is now so generally known, it is quite superfluous to detail even the outline of it here; it will be sufficient to remark, that his orders are, perhaps, too few, and that his Hemiptera contains at least two

distinct and natural ones; that his Neuroptera contains two; and that his Aptera composes two or three more, equally distinct: but his remaining orders, probably, admit of no improvement. With respect to the Hemipterous order, the Insects which compose it are already divided into two, by two writers; the Gryllaceous tribes having been separated from the Cimicean kinds, by the great Entomologist Fabricius, under the name of Ryngota; and by Olivier, under the appellation of Orthoptera; which last is possibly the most eligible. And the Neuropterous and Apterous orders of Linnæus have also been formed into several, by the able pen of Fabricius; the names and distinctions of which shall be speedily explained.

The advantages which resulted to the entomological science, from the inestimable publications of Linnæus, arose chiefly from the clear and lucid manner in which he arranged their materials; from the aptitude and value of his generic and specific names, of which he was the inventor;—from the extreme conciseness and precision with which he contrasted and defined his species;—and from the candid and innumerable references which he gives to the works of his predecessors in the science. But enough: the pages of Linnæus are familiar to the students of Nature.

J. C. FABRICIUS,

a name never to be forgot in the annals of our science, and the greatest which it boasts, will next appropriately claim our attention. He was the pupil,

the favoured scholar, of Linnæus; and has done still more towards advancing the science which he loves, and which he has devoted his whole life to improve, than did even his immortal master; who is reported thus to have spoken of him:—

" When Fabricius asks me concerning an In-
" sect, I take off my hat, and I say unto him, be
" you my teacher."

Nevertheless, it is the misfortune of this celebrated Entomologist, and his cibarian system, that he should have founded the most essential points of it upon such minute parts of the mouths of his Insects, the " Instrumenta cibaria," as are not visible without a compound microscope; and even not then without the most careful dissection, by a skilful and accustomed hand. It is true, however, he has at length attended to the admonition of his friends; and, in consequence of it, in his later publications, given *secondary* characters from *visible* parts, which, in our humble opinion, are sufficient to remove the disadvantages resulting from the exclusive use of the " Instrumenta cibaria," in defining his classes and genera; which last have often been thought too numerous;—they probably are so: but certainly not in so great a degree as has usually been believed by the generality of British Entomologists. But with respect to his specificæ differentiæ, and general descriptions, their genuine merit yields to none.

The following summary will explain the system of Fabricius, and in what leading features it differs from that of Linnæus: first premising, that his changing of the names of his great master's orders, to

more inelegant ones, is an alteration without a precedent; and at once as unwarrantable as it is disadvantageous.

His system has eleven classes of Insects. Linnæus had seven orders. The first of the Fabrician classes is called Eleutherata; it contains the Coleoptera of Linnæus.

The second, Ulonata, and contains the Linnæan Hemipterous genera, Gryllus, Blatta, and Mantis; and, we think, very properly, the genus Forficula, which Linnæus arranged with his Coleoptera, from its similitude, probably, to Staphilinus.

The third class of Fabricius is termed Synistata; it is composed of the Linnæan Neuropterous genera Ephemera, Phryganea, Hemerobius, Rhaphidia, Panorpa, and Myrmelion; and also the Linnæan apterous genera of Lepisma, Podura, and Termes, because they agree in their *Instrumenta cibaria* with the others.

His fourth class, Piezata, corresponds exactly with the Linnæan Hymenoptera.

His fifth, Odonata, contains the Linnæan genus Libellula only, which, however, he divides into three genera, viz. Libellula, Aeshna, Agrion.

His sixth class, Mitosata, embraces only Scolopendra, Iulus, and Oniscus.

His seventh, Unogata, comprises the Linnæan Aranea, Phalangium, and Scorpio.

His eighth, Agonata, is occupied by Cancer only, but divided into eleven genera.

His ninth, Glossata, corresponds with the Linnæan Lepidoptera.

His tenth, Ryngota, contains Fulgona, Cicada, Cimex, Pulex, Aphis, Thrips, Notonecta, Nepa, Chermes, and Coccus, of Linnæus.

And his eleventh, Antliata, embraces the same Insects as the Linnæan order Diptera.

It will be perceived, the Linnæan order, Aptera, is quite abolished; at which, however, we are not satisfied: but the reader must judge for himself.

The celebrated author, of whom we are treating, is not only still living, but still writing: long and happy may he live!—and long also, and prosperously, may he write! he who has already done more towards the advancement of Entomology at large, than any individual whatever; and but for whom, the science would now, probably, have been not much advanced from the state Linnæus left it in; would not have had its species doubled and trebled, and clearly defined: for, while we are cavilling about the genera, and the generical characters of the Fabrician system, we overlook, and neglect to appreciate, its unquestionably more meritorious parts. It is in almost general use on the Continent, and must eventually be so here; with the exception of the names of some of the classes; and further excepting, the incongruous, and, perhaps, unnatural distribution of some of its materials.

But to return from this digression, which, however, was an essential one, to the Entomological writers of Britain, the next of whom, in the order of chronology, is

MATTHEW MARTYN,

who published at Exeter, in the year 1785, in 12mo. "The Aurelian's Vade Mecum; containing an Eng-" lish alphabetical and Linnæan systematical Cata-" logue of Plants, affording nourishment to Butter-" flies, Hawk-Moths, and Moths in the state of " Caterpillar; collected from various authors, by " Matthew Martyn."

The Insects enumerated in this Catalogue, are arranged, not as might be expected, according to some system of Entomology, or by the order of the alphabet; but, whimsically enough, according to the Linnæan classes and orders of the plants on which they feed! It is not extensive, and the same Insects occur in many pages of the Catalogue, if they happen to be feeders on many plants, which is frequently the case. The author gives the *Vade Mecum* as the forerunner, merely, of a more complete work on British Entomology, which it should seem he was preparing at the time he published the present one; but it appears he never was able to fulfil his intentions; for he "sleeps with his ancestors, in the nar-" row house."

In 1789, a second edition of

DR. BERKENHOUT's

"Outlines," appeared under the title of "Synopsis " of the Natural History of Great Britain and Ire-" land; containing a systematic arrangement, and " concise description, of all the animals, vegetables, " and fossils, which have hitherto been discovered in

" these kingdoms; by John Berkenhout M. D. being " a second edition of the Outlines, &c." From the following passage in the preface, it appears that the present edition of this work, was a mere reprinting, without any addition, as far as concerned the entomological department of the book. " Of Insects, near 10,000 species have been described, and probably " many thousands still remain undiscovered. In " this class, I have added nothing to those that " were in the former edition. They are upwards of " 600."

We arrive now at the commencement of a very beautiful but desultory work, which sometimes touches on Entomology; the " Vivarium Naturæ, the Na- " turalist's Miscellany," by

DR. SHAW and FRED. P. NODDER,

octavo, London, 1790. This work has been regularly published, in monthly numbers, of three plates each, with descriptions in Latin and English: and still continues to be published. The plates are elegantly executed, and richly coloured; and, in the Entomological department, chiefly pourtray select specimens of exotic Insects, of the more beautiful, or interesting kinds: yet, occasionally, british ones, of a more common cast, such as Papilio Io, Atalanta, Phalæna Caja, &c. The descriptions however, are, in some instances, shorter than could be wished; and the reverses, or under sides, of the Papiliones, never depicted, which sometimes renders the figures less intelligible than they otherwise would be. The upper side of Papilio Thoas is figured on plate 331;

its generic and specific characters, given from Linnæus and Fabricius, and these words only added, "Americam meridionalem incolit Papilio Thoas, "magnitudine naturali in tabula depictus."

The next writer in the chronological order of this paper, is

E. DONOVAN,

who, in 1792, began to publish, at London, in octavo numbers, containing three plates each, and English descriptions, "The Natural History of British In-"sects; explaining them in their several states, with "the periods of their transformations, their food, "œconomy, &c.; together with the History of such "minute Insects as require investigation by the Mi-"croscope: the whole illustrated by Coloured Fi-"gures, designed and executed from living speci-"mens."

This work was regularly published in monthly numbers, until ten volumes, of twelve numbers each, were completed, when it closed: but it has been resumed, in the present year, and an eleventh volume added; in an advertisement prefixed to which we are assured, "that the future volumes, "with the preceding, shall comprise, collectively, a "general history and elucidation, in appropriate "descriptions and figures, of the whole Entomologia "Britannica, so far as the author's cabinet, and the "obliging communications of his friends, will per-"mit."

The eleventh volume of this work does not appear inferior in execution to the ten preceding ones, with

the exception of plate 362, on which, by some unaccountable inadvertency, the proper antennæ of Chrysomelæ, are placed upon the heads of ten figures of well-known species of Coccinella. English descriptions are frequently omitted in this work, the generic and specific characters only being given; but we think it would be an improvement, if they constantly appeared.

In the earlier volumes of the work, a few animalculæ, of the class Vermes, are occasionally figured, and highly magnified, in interesting attitudes; but in the latter parts, we know not for what reason, they have been discontinued; probably, because they disaccord with the title.

THOMAS MARTYN,

in 1792, published a costly work, in imperial quarto, at London, entitled, "The English Entomologist, "exhibiting all the Coleopterous Insects found in "England, including upwards of 500 different spe-"cies, the figures of which have never before been "given to the public; the whole accurately drawn "and painted after nature, arranged and named "according to the Linnæan system, by Thomas "Martyn."

This pompous publication, dedicated to the King of Spain, is more remarkable for typographical perfection, than for its entomological qualifications, in which it is poor indeed; its figures being so indifferently executed, as to be almost useless.

A beautiful work was published at London, in 4to. in 1795, by

WILLIAM LEWIN, F.L.S.

on the Papiliones of Great Britain; in which he describes in english, and very elegantly figures, all the species then known to inhabit these islands; amounting to about 60. This work was to have been continued; and all the sphinges, and, probably, other British lepidoptera, would finally have been delineated in it, had not death, that foiler of all human plans, put a period to the author's existence, soon after he had published the Papiliones.

In the same year, 1795,

THE LINNÆAN SOCIETY OF LONDON

commenced publishing their "Transactions," in quarto, with occasional plates; and between that period and the present time, seven volumes have appeared, containing, inter alia, several valuable entomological tracts; but which the limited nature of these *sketches* will not, consistently, permit us to detail.

And also, in the same year 1795, a third edition of "Berkenhout's Synopsis," appeared; which, however, we are told in its preface, contained the same entomological matter only, as the preceding ones.

MR. JOHN FRANCILLON

likewise published, in 1795, (a fertile year for entomological works), a "Description of a rare Sca-"rabæus, from Potosi in South America; with "engraved representations of the same, coloured

" from Nature." Mr. Francillon, in latin, and english, gives the generic character of this extraordinary and unique Scarabæus, from Systema Naturæ; adds a specific one; and says he received the insect from Lisbon; but that it is supposed to be a native of Potosi in South America. The following is the name and specific character which he applies to this beautiful species:—

" SCARABÆUS *macropus.* (The Kangaroo Beetle.)
" Scutellatus, viridis, nitens, subtus cupreo auratus,
" pectore porrecto, femoribus posticis crassissimis."

He might, with propriety, have added " elongatisque."

In the year 1797,

J. E. SMITH, M.D. P.L.S.

published a magnificent work in folio, at London, intitled " The Natural History of the rarer Lepidopterous Insects of Georgia, collected from the observations of Mr. John Abbott."

The Insects are charmingly represented in all their mutations; and on such large and characteristic specimens of their food, the whole Plants as well as Insects being scientifically delineated and described, that this publication is to the full as valuable to the Botanist, as it is to the Entomologist: we never before beheld the sister sciences walk so closely, and so engagingly hand in hand, as in this interesting volume.—It is truly a Flora et Entomologia.

In the year 1800,

WILLIAM TURTON, M.D.

published an English translation of the Systema

Naturæ of Linnæus, and professed to interweave with the old materials, all new discoveries up to the time of its publication; and to mark in the margin all such articles as are indigenous to Britain. Had this intention been *fully performed*, the translation would, indeed, have been a valuable one; but we fear it has not; and many of the Insects marked in it as British, it is likewise to be feared have been so done inadvertently: at least no specimens of them, of British origin, have yet occurred to us, or to any of the Entomologists we have been able to consult concerning them. Other inaccuracies the periodical Reviewers have noticed.

In the year 1801,

THE REV W. KIRBY

published his valuable and extensive "Monographia "Apum Angliæ," in 2 vols. octavo, London.

And in 1802,

THOMAS MARSHAM, Tr. L. S.

published at London, in octavo, the first volume, containing the Coleoptera, of his valuable "Entomo-"logia Britannica," a work which, notwithstanding the paucity of its genera, and a few, probably unavoidable errors, attending the distribution of its materials, has already done more in aiding the practical part of coleopterous entomology in Britain, than all which have preceded it.

My "Prodromus Lepidopterorum Britannicorum," was *anonymously* published the same year at Holt, prior to the preceding work; and in the following

year the first volume of my "Lepidoptera Britannica" appeared, declaring in its preface the writer of the Prodromus.

In the same year, 1802, was likewise *anonymously* published at Edinburgh, in octavo, the second volume (the first appearing the year before) of "Elements "of Natural History, being an Introduction to the "Systema Naturæ of Linnæus; comprising the cha- "racters of the whole genera, and most remarkable "species; particularly of all those that are natives "of Britain; with the principal circumstances of "their history and manners, &c. &c."

The entomological part of this publication, which in several of the classes is more extensive concerning British Insects, than any yet submitted to the public eye, might have considerably forwarded the interests of our favourite science in these kingdoms; but for the blameable and much regretted want of synonyma and authorities; which are almost totally omitted; whereby this otherwise meritorious and well written compilation is rendered infinitely less useful than it might, with such attainable ends, have been. At present, its specific names are of little further service or authority, than those of a bare catalogue: for we cannot, with any certainty, discriminate in it, old species from new: nor ascertain (amongst numerous other equally ambiguous things,) on what authority such fine insects as the following Linnæan and Fabrician ones (if they are meant as such), are now, for the first time, announced as inhabitants of Britain: not a single specimen of any one of them, except No. 21, or 22, occurring in any cabinet of British Insects known to us in the metro-

polis, or in any provincial collection of celebrity; notwithstanding we have examined, in and out of London, not fewer than four score.

1. Dytiscus latissimus.
2. Gryllus stridulus.
3. Gryllus cœrulescens.
4. Papilio Mæra.
5. Papilio Populi.
6. Papilio Camilla (Fabr.?) "with shining blue spots."
7. Papilio Maturna.
8. Papilio Dia.
9. Papilio Niobe.
10. Papilio Hippothoe; "found in meadows."
11. Phalæna Dumeti.
12. Phalæna processionea.
13. Phalæna anastamosis; "feeds on Willow Flies in August."
14. Phalæna purpurea.
15. Phalæna aulica.
16. Phalæna vibicaria.
17. Phalæna purpuraria.
18. Phalæna pantaria; "flies in Yorkshire in June."
19. Phalæna polymita.
20. Phalæna monilis.
21. Phalæna Bombyx Cerasi, p. 145, and,
22. Phalæna Noctua Cerasi, p. 185.

Are the two last the same?

23. Phalæna cerago.

The above remarks are given, not with any invidious view towards its concealed author, or authors;

but from a wish to excite further information from him or them, concerning the doubtful parts of the work; either through the medium of the Entomological Society, which may now be done; or through any other more appropriate channel.

" Dolent hanc scientiæ incertitudinem omnes
" historiæ naturalis amatores." FAB.

The plan of the " Elements of Natural History" is good: its genera are those of Systema Naturæ: and its species compiled from various, but (as above mentioned), unacknowledged, and consequently uncertain sources, the publication being an anonymous one. After the generic and specific characters, descriptions or remarks usually follow, but scarcely ever the times and places of appearance, or measurement of the Insects; which, in our humble opinion, are as essentially necessary as references to authors, in the present improved state of the entomological science; and, we trust, should another edition of the work appear, they will not be omitted.

Mr. Kirby's " Monographia Apum Angliæ," having been published a year before the " Elements of " Natural History," our curiosity was excited to see what use the anonymous author of the latter would make of the numerous and valuable contents of Mr. Kirby's publication; but we were disappointed at finding it entirely unnoticed.

The observation, at page 12, of " working bees " being females, impregnated by Drones, and that " among Bees there is no such thing as a plurality " of males;"—those on Papilio Argus, P. Artaxerces, P. Adonis, and Sphinx Filapendulæ, &c. &c.

on pages 131, 132, 140, &c. &c.—and those on preserving Insects on page 308, show the hidden author's knowledge in the science of entomology, to be much inferior to his assiduity and energy, as a compiler and a writer; with which remark this account may close.

JAMES SOWERBY, F. L. S.

published, on the 1st of December 1804, in octavo, at London, the first Number of "The British Miscellany, or coloured figures of new, rare, or little known animal subjects, not before ascertained to be inhabitants of the British Isles; and chiefly in the possession of the author."

This Number was followed by eleven others, at irregular periods, the last appearing on the 1st of August in the present year. The first five contained four plates each, and corresponding letterpress; and the remainder eight plates each, with similar descriptions.

As the entomological articles of the British Miscellany are not numerous, and the subjects in general very interesting, a slight enumeration of them is here subjoined; with, occasionally, such short remarks as the limited nature of this paper will consistently allow.

On table the second, a Papilio, new to Britain, is figured, under the name of P. Blandina, Fab. E. S. 736. nec. 397. but which is most probably the P. Ligea, of Linnæus. It was caught in the Isle of Arran, in Scotland.

Table the 7th, presents us with another Papilio, new to Britain, from the same place, and called P.

P. Ligea, Lin.; but it appears to have sufficient characters to constitute a new species.

Table the 11th, gives P. Charlotta, of Lep. Brit. as a new species; it is here figured for the first time.

The 13th plate, represents Pap. Chryseis, of Fab. and of Lep. Brit. but here first depicted as a british species.

The 14th table has a beautiful, and hitherto unpublished, species of Noctua, by the name of Phalæna catæna; of which, however, we have been in possession of a drawing, and MS. description, many years.

Table 15, gives a new species of Oniscus, by the name of Longicornis, from the west of Scotland.

Table 18, displays Cicindela hybrida, Lin.; two british specimens only of which had then been found in Wales; and on the present plate first published. This beautiful Insect, has, however, since been taken on sandy ground near Yarmouth, in the spring of the year abundantly, by my friends Mr. W. J. Hooker, F. L. S. and the Rev. J. Burrell, F. L. S. and F. E. S.

Table 19, gives Apis flavicollis, as a new species; but it is probably a variety only of Apis lapidaria, Lin.

The 20th plate, portrays Phalangium Diadema, of Lin. here first made known as an inhabitant of Britain. It was caught in South Wales.

Plate the 23d, elucidates a new Cancer, called Spinus. It was found on the scottish coast.

Table 26, illustrates Elater cyaneus, of Ent. Brit. a beautiful Insect, but perhaps only sexually distinct from E. impressus, of the same work. They are much alike, and my friend Mr. J. Hooker, F. E. S.

finds them together beneath the same stones in Norfolk.

Table 27, displays the most brilliant of all the british Coleoptera, the splendid Carabus nitens of authors; it is here said to be frequent on heaths near Durham.

Table 28 depicts, for the first time in Britain, Noctua bractea, of Fab. and N. bracteina, of Prod. Lep. Brit. by the name of Phalæna N. brăctea.

Table 29, displays, as a new species, here called Phalæna N. ærifera, the charming Noctua orichalcea, of Fab. Ent. syst. 3. 77. 222.

This Insect is beautifully figured in Hüb. Beït. by the name of orichalcea, and also by Harris in his Exposition of English Insects in 1782.

Table the 33d, gives Ammophila hirsuta, of Lin. Trans. 4. 206; and a new species by the name of A. pulvillata.

Table 34 has, for a new species, "Scarabæus "ovalis;" adding, on the wrapper, "that it is er- "roneously named Scarabæus *ovatus* in the descrip- "tion, but afterwards found to be Scarabæus glo- "bosus of Fabricius."

We find no such name in the works of Fab. but believe it to be his Scarabæus arenarius. It is here given for the first time as british; but has since been taken plentifully near Yarmouth, along with Cicindela hybrida, by Mr. W. J. Hooker, and the Rev. J. Burrell.

Table 35, displays Scarabæus spiniger of Ent. Brit. and also Scarabæus foveatus of the same work.—Are they distinct species?

Table 36, has Carabus angustatus, as a new spe-

cies from Wales, (by mistake called rotundicollis, but corrected on the wrapper).

It is (according to Panzer) the Carabus angustatus of Fab. Mant. of Payk. Monog. Carab. and of Panz. Ent. Germ. Attellabus Melanurus of Lin. Syst. Nat. and Cicindela angustata of Panz. Faun. Ent. Germ. cum icone.

Table 37, finely represents, as a new species, the rare Bombyx oleagina of Fab. and of Lep. Brit. and Noctua oleagina of Hüb. Schmet, cum icone. I have seen Mr. Plastead's specimen, here mentioned, several years since; which that gentleman dug the pupa of in Battersea fields, along with Noctua Persicariæ; and have also seen another, which was caught in Scotland twenty years ago; and my friend Mr. Donovan, F. L. S. found one in Wales.

On table 38, is delineated Melitta nigro-ænea, of Kirby's Monog. Apum. Ang.

Table 39, gives Cancer Maja, for the first time as british, adding that it is from the shores of Penzance, and that it has been confounded with the C. horridus of Pennant; and that C. Maja of Herbst, is the C. horridus of Pennant.

Plate the 45th, illustrates a minute, but highly interesting insect, the Stylops Melittæ, of Kirby's Monog. Ap. Ang. It is only a line and an half long, but of such singular characters as not only to form a new genus, but at first sight to disagree even with every one of the orders now in use. It is here, however, with sufficient propriety, as well as in Mr. Kirby's work, placed in the order Hemiptera; and may, perhaps, be considered as allied, although remotely, to those Cimices whose scutella

cover their abdomens. It is most beautifully delineated, and admirably described; and, strange to relate, feeds, when a larva, between the abdominal rings of Melitta Albicans, of Kirby!

About ten years ago, I caught one of these Insects in my garden on the wing, still possess it in fine condition, and mention the circumstance, because the specimens spoken of in the British Miscellany, are said to be now nearly, or entirely destroyed.

Table the 46th, gives Libellula conspurcata, of Fab. It was figured and described by Harris, in the year 1782, in his Exposition of English Insects, 4to. tab. 46. f. 2. p. 156, by the name of Libellula fugax; and is occasionally taken near London.

Table 47, portrays a bronzed variety of Libellula ænea, Lin. which Mr. Sowerby thinks may be a distinct species, and so Linnæus made it in the first edition of Faun. Suec. The green kind, mentioned by the author, is described and figured by Harris, vide his Exposition of Eng. Ins. tab. 27. fig. 2. page 92.

Both these Insects were sent me some years since, by my friend Mr. W. Skrimshire, F.E.S. from the fens of Cambridgeshire; and I have seen them flying there. They are mere varieties of L. ænea.

Plate 52, exhibits a very remarkable and rare Ichneumon, for the first time as british, the persuasorius of Lin. which was caught by Mr. W. J. Hooker, in a garden at Norwich. The Rev. J. Burrell, has also taken this fine species in Norfolk.

Table 54, represents that rare Insect, Staphilinus

concolor of Ent. Brit. It is 9 lines long, and 2¼ broad.

Table 55, displays, from Mr. Marsham's cabinet, a Noctua, not hitherto figured as British; by the name of Phalæna N. X-scriptum. It should appear to be Noctua compta of Fab. and of Hübner's Schmet. Noct. tab. 11. f. 53. and is the N. variegatina of Prod. Lep. Brit. a rare and beautiful species, but exists in several collections, and has lately been taken by our friend the Rev. T. Skrimshire, F. E. S. in Norfolk.

Table the 57th, illustrates Scarabæus pumilus, of Ent. Brit. of late only caught in Norfolk and Suffolk; but we have some very old specimens said to have been taken near London.

Plate 58, affords an interesting North American Insect, Cerambyx-fulminans, Gmel. syst. Nat. Clytus fulminans, Fab. syst. Eleut. which it appears was caught "by a young lady in a garden at Kensington;" and, as Mr. Sowerby very properly observes, "may have been imported in its larva state in timber, like Cerambyx violaceus." Be this as it may, it is now proper to record it as a british Insect, with the above remark attached to the record.

The 59th table presents us with the Carabus chrysostomos of Ent. Brit.

In addition to the specimens, Mr. Sowerby mentions of this rare and lovely Carabus, we may add one we have seen with Mr. W. J. Hooker, which (if memory deceives not) was taken in Norfolk, by his friend Mr. Deer, on the humid bank of the Norwich river.

Table 64, depicts the two sexes of Gryllus campestris, which most entomologists have heard chirp, but few have seen.

Table 46, gives a larva of what the author supposes to be an Hemerobius; but it is most probably the young of some Chermes. The same plate portrays an Acarus, here called amictus; and another by the name of Acarus corbicula. These Insects, although minute, are extremely interesting, and the account of them curious and satisfactory.

Table 72, affords another beautiful Insect, new to Britain, by the name of Elater chalybeus, which it seems Panzer, and probably Fabricius, make a variety only of E. cupreus; and Paykull, a variety of E. pectinicormis.

It appears sufficiently distinct as a species, and was taken by the Rev. Mr. Dalton, of Copgrove, in Yorkshire. We have never seen it.

The 68d plate, gives Gryllus viridulus; a species often found in that most beautiful, and picturesque part of Coomb Wood, known to collectors of Insects by the name of the Gallery.

The 74th table, which is likewise the last entomological one of this interesting work, displays three species of the Fabrician genus Acrydium; viz. A. subulatum, Fab. A. undulatum, and A. nigricans; the two last of which are new species. The figures are given from Mr. Kirby's cabinet, and are, therefore, probably Suffolk Insects. They likewise occur, although sparingly, in Middlesex.

We now take leave of the British Miscellany, and its neatly executed plates, by regretting that it has

lately been discontinued; and by hoping that its author will soon meet with encouragement sufficient to induce him to resume it.

GEORGE SHAW, M. D. F. R. S. &c.

published, in two volumes octavo, at London, in the present year, the Entomological part of his "General Zoology, or systematic Natural History, "with plates from the first authorities, and most "select specimens."

The classical and generic characters of Linnæus are given, and a few of the most remarkable species of each genus enumerated and figured; for the purpose of explaining the entomological system of the celebrated Swede; which Dr. Shaw considers very far superior to that of Fabricius.

In the present year also, was anonymously published, at London, in folio, sixty copies only, of

"Coloured specimens, to illustrate the Natural "History of Butterflies; from the collection of Mr. "Lee, Hammersmith."

This work is elegantly printed on wove paper, and hot-pressed; and is embellished by twenty copper-plates, on which are beautifully depicted as many Papiliones of the more rare and showy kinds, and all exotic, except P. Machaon, which is a native of England, but also occurs in Asia and America; and exists even in the centre of China, without the slightest variation from our english specimens.

The plates of this publication are executed in the most able manner, and finished by the colourer so as

to imitate drawings as nearly as practicable. The whole are explained in English, and accompanied by suitable references and transcripts from the pages of Linnæus, Fabricius, and other entomological writers.

APPENDIX.

ACCIDENTALLY, four Works, by Sibbald, Lister, Wilks, and Marsham, and hereunder explained, have been passed over in the order of chronology.

Neither has any mention been made of Donovan's Instructions for collecting Insects, or of his highly executed figures of Chinese, Indian, and New-Holland Entomology, lately published, as we have too negligently omitted to procure them. Nor have we enumerated the various pieces of entomological information which are dispersed in the Philosophical Transactions; in Lord Bacon's, Pliny's, and Catesby's Natural Histories; in Derham's Physico-Theology; the Life, Letters, Travels, and Discourses of the great Ray; or, in his pious account of the Wisdom of God in the Creation: or, in the various scientific Travels and Transactions of the Linnæan school: or, lastly, in several detached Essays on the Honey Bee; and in White's Natural History of Selborne; which the limited nature of this paper

would not permit a detailed account of. Although, from the Life of Ray, by his able friend,

The REV. W. DERHAM, D. D. F. R. S.

it would be injustice to refrain from making the following extract; which shows that the "Historia "Insectorum" itself would scarce have existed, but for the celebrated companion and patron of the former,

FRANCIS WILLUGHBY;

one of the original Members of the Royal Society, whose entomological manuscripts formed the broad basis of the work; as is thus, with his accustomed candour, acknowledged by Ray in a letter to Derham, dated August 16, 1704.

"I am now entering upon an History of Insects for which you would have been a far fitter person, having what I want, your senses intire, your strength firm, your understanding and memory perfect. The main reason which induces me to undertake it, is, because I have Mr. Willughby's History and Papers in my hands, who had spent a great deal of time, and bestowed much pains upon this subject, when there were few that minded, or were diligent and curious in it, though now there be many; and it is pity his pains should be lost. I know not whether I told you that I designed, in every tribe, first to put the English species by themselves, and then the exotic by themselves. I desire you to afford me your help in carrying on this history, and enrich it with some of your observations, especially about flies, wherein we are most deficient."

In the year 1685, that great Naturalist,

MARTYN LISTER, F.R.S.

so respectably mentioned above, published in octavo, at London, a latin translation of Gœdart; viz. "Johannes Gœdartius de Insectis, in methodum re-"dactus; cum notularum additione."

"Una cum Scarabæorum Anglicanorum quibus-"dam Tabulis mutis."

This is a very curious old book, and contains copper-plate figures of about 200 Insects, chiefly british, and generally accompanied by their larvæ and pupæ. The plates are neatly executed for the age, and their contents not only readily understood, but in various instances really superior to some of modern date. Its interesting explanations of the metamorphoses of Insects, must have greatly forwarded the Entomological science in this country, although written in Latin: and the figures reflect credit upon the artists of the day.

In the year of our Lord 1742,

BENJAMIN WILKES,

also spoken of above, published at London twelve folio copper-plates, of the more showy english Lepidoptera, disposed in imitation of pictures; with an engraved emblematic title, highly ornamented, dedicating the work "To the AURELIAN SOCIETY" of that day.

The english names of the Insects, and often the names of the plants on which they feed, together with the times and places they are found in, are like-

wise engraved at the foot of each plate; but no letterpress appears to accompany them.

The figures are ably designed, very neatly engraved, and amount collectively to some hundreds: but there are several given of each species, to keep up the spirit of the group, which each plate beautifully, yet perhaps too uniformly, represents.

The author informs Ladies and Gentlemen, that they may inspect the original Insects, from whence these ingenious designs were taken, in his own collection in Fleet Street; which we believe is still in existence, and in the possession of the Linnæan Society of London; arranged somewhat after the manner of the abovementioned plates.

In the year 1788, appeared in "Hall's new Royal "Encyclopædia," a "System of Entomology," by

THOMAS MARSHAM, Sec. L. S.

also mentioned above. Had this system, which is elucidated by three explanatory plates, been published in any other manner than as an article in a Dictionary of three folio volumes, it might more easily have aided the advancement of our favourite science, than it can in that shape be expected to do.

Briefly explaining the entomological system of Linnæus, it gives likewise the essential characters of the genera, and technical definitions of that great man. It also slightly mentions the names of other leading authors in the science; together with the mode of collecting and preserving insects: and very interestingly points out many of the more remarkable peculiarities of the insect world.

Mr. Marsham prefers the Linnæan system to those of Fabricius, Olivier, or the Baron De Geer; but speaks very highly of those celebrated writers; yet lamenting the new orders and genera, which they conceived it advantageous for the science to adopt.

ROBERT SIBBALD, M.D.

published in the year 1684, at Edinburgh, his "Sco-" tia illustrata, sive Prodromus Historiæ Naturalis, " &c."

The entomological materials of this book, which blends Slugs, Leeches, and other Vermes with Insects, occupy eleven caputs or chapters, and are thus arranged.

" Distinguitur autem Insecta generaliùs in Terres-" tria et Aquatica, et utraque in Pedata et Apoda. " E. Pedatis rursum alia sunt Alata, alia Aptera sive " non Alata. Alata subdividuntur in Anelytra, sive " Detectipennia Membranacea; et Coleoptera sive " Vaginipennia, quæ alas suas velut in vagina rece-" dunt. Inter Anelytra alia favicant, alia non." p. 29.

This system, certainly the best then known, and which paved the way for Ray's, must essentially have advanced entomological science; although the Insects it enumerates are extremely few, and often given by whole genera, or even whole orders, in a single paragraph. The Lepidoptera are dispatched as follows.

" Papiliones varie specierum. Papilio alius qui-" dem diurnus, alius nocturnus; et utriusque multæ " species apud nos. Alii enim magni, alii parvi, alii

" mediocres; alii ueno præditi colore, alii duobus,
" alii pluribus: alii maculati, alii sine maculis. An-
" tennas habent Papiliones, et alas farinaceas fra-
" gilesque. Quidam amant loca florida, quidam in
" parietibus et locis tenebricosis versantur.

" Usus. Urinas movere dicuntur." p. 30.

A Cerambyx and an Acarus magnified, are the only Insects figured.

The author having now enumerated all the entomological writers and their works, which have been given to the public in these kingdoms, in as far as they have reached his knowledge, here concludes the subject, at least for the present; but may hereafter possibly resume it, for the purpose of showing in what manner the cultivation of the entomological science has engaged the attention of other nations: hoping that the sketch here given will, in the mean time, be graciously accepted by the Members of this Society.

II. *On Rearing Insects. By the Rev.* THOMAS SKRIMSHIRE, LL.B. and F.E.S.

MAN is a social and communicative animal; societies therefore, or collective bodies of men formed for the purpose of obtaining and communicating knowledge, are agreeable to our nature; and in the highest degree conducive to the attainment of science, and the benefit of our fellow creatures. Natural history, in particular, is eminently indebted to institutions of this nature; for trifling and confined would be the knowledge of any individual, though blessed with the nicest and most accurate discrimination, were it confined to his own observation. We need only turn our attention to the liberal and highly esteemed institution of the Linnæan Society, to be convinced of the proud pre-eminence in Natural History which this island has obtained, and is likely to preserve, over every nation in the world, in consequence of the liberal and communicative sentiments of its worthy President in particular, and the other Members of that Society. But as knowledge is more accurate the nearer we attend to minutiæ, and communication more interesting upon subjects which immediately surround us, I conceive that the *Entomological Society* deserves the encouragement and support of every Naturalist of this happy island. As a humble individual, and Member of that Society, I shall ever consider it as my duty and greatest

pleasure, to communicate my observations on the immediate object of our attention, and to add my mite of knowledge to the general stock of the Society. As the general history of Insects of Great Britain, including their habits and economy, growth, progress, and metamorphoses, are but little known, I purpose doing myself the honour of transmitting the Society a letter annually upon this subject; but as my sphere of observation is very much confined, my remarks will, in general, not extend beyond the Insects of Norfolk. I shall endeavour, when it is in my power, to trace the Insect from the egg to the perfect state; and though my attention will be in a great measure confined to the Lepidopterous Insects, yet I shall occasionally deviate, as opportunity occurs. It will, however, very frequently happen, that the history of an Insect will be begun, but break off abruptly; I shall not, however, keep back my remarks on that account. Without farther preface, I shall commence my observations.

For the purpose of rearing Insects from the egg to the perfect state, I have procured a number of *tin* boxes, about two inches square, two sides of which, with the top and bottom, are of tin perforated with small holes; the remaining two sides are glazed: one of the tin sides constitutes a door, which slides in a groove. Twelve of these are placed in a wooden trough, partitioned off for each box, about $\frac{1}{4}$ inch deep, and made perfectly water tight. Only one Caterpillar, or a brood, is placed in each of these boxes, which are numbered. A book is kept num-

bered to correspond with the boxes, in which is entered the history of the Insect, from the day that it is placed in its box. A little water is poured into each partition of the wooden trough, which serves to keep the food moist, as also the earth which is put in the tin boxes, that the Caterpillar may undergo its metamorphosis in the most natural manner. I have observed that many of the pupæ have died in the earth; this, I conceive, in a great measure is owing to the earth binding so hard round them, as to prevent perspiration and breathing. I have therefore procured a looser kind of earth from a decayed tree, which I have mixed with equal proportions of sand and sawdust. Should the Society approve of my design, though I will not answer for much novelty in my remarks, I will endeavour, as far as possible, that my observations may deserve confidence, by the strictest accuracy and attention to the subject in question. In hopes that my humble attempt may stimulate some more able Member to communicate his observations on a somewhat similar plan, I joyfully commence my task.

III. *On the Lygæus micropterus.* *By the* Rev. John Burrell, A.M. F.L.S. and F.E.S.

In presenting to the Society the Lygæus transmitted with this letter, I flatter myself that I am offering a rare and curious Insect, not yet described by any author. At first appearance, we are prejudiced against its being a perfect Imago; but the circumstance of my taking four or five pairs in copulation, removes all doubt on this head. It is a very charming Insect when first captured; but the green has faded considerably to a yellow tint. To describe it in scientific language, perhaps the following will meet with the Society's approbation.

LYGÆUS MICROPTERUS.

L. viridis, elytris venis duabus et margine interioribus rubris.

Hab. in Graminibus in locis cretaceis. Aug. init.

Long. corp. $3\frac{1}{2}$. lin.

Desc. Antennæ quadriarticulatæ rufæ, ultimo articulo fusco, setosæ.

Caput viride, margine posteriore rufo-flavo, oculis fuscis, setosum.

Rostrum longum, pallidum.

Thorax setosus, viridis.

Scutullum thorace concolor.

Elytra brevia viridia venis elevatis, duabus et margine interioribus rubris, villosula.

Membrana pallida. Alarum rudimenta alba.

Abdomen marginatum maris rufum, linea dorsali interrupta nigra, fœminæ viride linea dorsali latiori rufa, sed ad apicem nigra, marginibus viridibus.

Pedes pallidi, setosi.

Obs. Fœmina mare latior.

Figura *a*, maris. Tab. 3.

b, feminæ.

I have not yet discovered the larvæ, but have no doubt I shall, at some future period, be able to send specimens to the Society; as the Insect, though local, was by no means very scarce. Had a tempest not interrupted my pursuit, I should have captured many more pairs. And on renewing my search the next two or three days, I met with the female very sparingly, and no males. The absence of the sun may be considered as the cause of their concealment, as I never found a single specimen before the mid-day. The grass most prevalent on the small limited spot was Briza media (Cow-quaker, or Ladies' Hair); but I did not observe any particular larva this grass produced. If these incipient remarks should be new, and worthy your acceptance, my further endeavours to elucidate the history and economy of this pretty Lygæus, shall be unremitted.

Memorandum.—The green of this Insect nearly borders on the green of Noctua prasina.

N°. 3

F.P.Neale del.S

IV. *A brief Account of some rare and interesting Insects, not hitherto announced as Inhabitants of Great Britain.* *By* A. H. HAWORTH, F.L.S. F.H.S. and P.E.S.

As the following species of Insects have either not been described at all, or not hitherto enumerated as natives of this prosperous and productive Island; it is presumed the descriptions of them, here submitted to the Entomological Society of London, will not be found unworthy of their acceptance and approbation; especially as they are accompanied by three copperplates, drawn, engraved, and herewith presented to the Society, by Mr. J. P. Neale, who is one of the Members: and as specimens of the whole are preserved in the Entomological Cabinet; where any of the Members can readily have the satisfaction of examining them.

With respect to the nomenclature, it will be perceived that of Fabricius has been chiefly adopted; which, although not the best that is capable of being constructed, may nevertheless be fairly considered as the most perfect; and is likewise, unquestionably, the most extensive now in use. Yet his arrangement, however valuable, is here occasionally rejected; it not having been considered either eligible or advantageous to separate widely, such natural genera as Scarabæus and Trichius, &c.

But to proceed to the descriptions, beginning with the class

COLEOPTERA,

and the first genus in the system

GEOTRUPES. (Fab. Syst. Eleut.)

nasicornis, thorace prominentia triplici, capitis cornu recurvo, elytris lævibus.

Fab. syst. Eleut. 1. 13.

Scarabæus *nasicornis*. Lin. Faun. Suec. 378.

Habitat ligno putrido, et vaporariis hortulanorum. *Lin. l. c.*

Long. Corp. 1 unc. 1 lin.

Obs. This fine Insect is only once known to have been caught in Britain. It was presented to the Entomological Cabinet some time since by Mr. W. Anderson, Gardener to J. Vere, Esq. having been taken alive by a bricklayer, amongst old timber, on pulling down the roof of a building at Chelsea, and given by the captor when recent, to Mr. Anderson.

As most of the species of the genus Geotrupes, are not dung-feeders, like genuine Scarabæi; but delight chiefly in decaying wood, after the manner of Lucani and Cossi; it is probable that the above-mentioned specimen had actually been bred, or was about to breed, in the ancient timber of the building: for I once found, on cutting up some waste wood (purchased for lighting fires, on pulling down an old house at Chelsea), several larvæ of Cossus ligniperda (the Goat Moth), which usually prefers the trunks of living willows, oaks, &c. and sometimes the roots of decandrous plants, committing great havoc. The ac-

curate Ray, has also recorded its feeding under ground.

With the above Geotrupes was likewise taken, at the same time, and by the same person, a living specimen of Lucanus Dorcas, of Panzer, which Mr. Anderson also obligingly presented to me with the other. This Insect has not before been recorded as a british one, much less as an inhabitant of Chelsea, where neither Lucanus Cervus, nor inermis, of Ent. Brit. are ever found. The following specific character will distinguish it from the other species of the genus.

LUCANUS. Lin.

Dorcas, mandibulis exertis lateraliter incurvis, apice emarginatis, labio superiori subtruncato.

Lucanus *Dorcas*, mandibulis exertis apice subbifurcatis, denticulis intus tribus obtusis. Panz. Faun. Ent. Germ. cum. icone.

Long. Corp. 1 unc. 6 lin.

Obs. In the Entomological Cabinet there is preserved a mutilated specimen, communicated by Mr. Laskey, of another Lucanus of large size, allied to L. Cervus; and as yet undescribed. It was found alive, by Mr. L. in Devonshire. This imperfect specimen, with the assistance of two more complete foreign ones, of exactly the same kind, in my exotic collection of Insects, may now be described as a valuable addendum to the British Fauna by the name and character of

LUCANUS.

grandis, mandibulis exertis flexuosis, apice æqua-

liter præfurcatis, labio superiori truncatim sub quadridentato.

Long. Corp. 3 unc. 1 lin. Nova species.

Obs. As the addition of these species to the genus Lucanus, will render it necessary to alter the specific character of L. Cervus, of authors, it is proposed to do so as follows:

LUCANUS.

Cervus, mandibulis exertis flexuosis apice inæqualiter furcatis, labio superiori bidentato, dentibus acutis divaricatis.

Long. Corp. maris, 2 unc. 3 lin.

Obs. The prima facie appearance of all the above Lucani, size excepted, is very much the same; but a careful inspector discovers characters satisfactorily different; enabling him to separate and distinguish them from each other. In colour, punctation, and even in the lesser teeth of the mandibles, there exists the most striking similarity; as well as in many other particulars. And the marginal border of their great heads (almost the largest in proportion in the insect world), is, as might be supposed, the most conspicuous in L. grandis, and also the most angulose: the inequalities of the head of this species, are likewise the greatest, and for the same reason. And consequently L. Dorcas, being the smallest in size of the whole, is the least margined, angulose, and unequal. Yet, contrary to expectation, agrees best with L. grandis in the truncated form of the superior part of its large upper lip; that is the terminal angular part in the front of the head.

SCARABÆUS. Fab. Syst. Eleut.

lævis, muticus, clypeo rhombeo, vertice prominulo, elytris lævissimis irregulariter obsolete remoteque punctato-striatulis.

Habitat in Ericetis sed infrequens, prope Londinum.

Long. Corp. 9 lin.

DESCRIPTIO. Statura et magnitudo S. nigri, Ent. Brit. at thorace punctatissimo S. vernalis undique nitidus, subtus, et pedes violacei. Thorax punctis quasi duarum specierum, alia majora, alia multoties minora; omnia impressa; preterea foveola utraque, lateres versus. Elytra nigra; ad margines violacea, certoque situ alte virentia; oculo optime armato rugulosa et punctato-striata, striis quasi vagis vel remotis irregularibusque, nec regularibus ut in S. vernali (qui præterea duplo minor est). Elytrorum rugulæ transversæ sunt, et longiores validioresque quam in illo, et lente optimo, punctulatæ; sed in S. vernali non. Prope basin elytrorum punctulæ impressæ minutissimæ sparsæ ut in S. vernali. Scutellum postice nigrum basi depressum, punctulato-rugosum, et certo situ viride. Nova species.

OBS. By nova species, in this paper, is meant a species not described by any latin or english writer the author has investigated.

APHODIUS. Fab. Syst. Eleut.

tristis, scutellatus ater, thorace inermi: capite subtrituberculato, elytris striatis.

Scarabæus *tristis*, Panz. Faun. Ent. Germ. cum. icone.

Long. Corp. 2 lin.

Habitat in agris Eboracensibus prope Sheffield, forte stercore, congeneribus.

Musæo communicavit ejus captor, amicus J. Salt.

"Clypeus ater punctulatus, antice submarginatus, tuberculis tribus minutissimis. Thorax ater immaculatus, undique punctatus, margine antico tenuissime pallescente. Elytra atra thorace duplo longiora striata, interstitiis striarum punctis rarioribus minutissimis impressis. Antennæ testaceæ, capitulo cinerascente. Corpus cum pedibus atrum. Tarsi soli testacei.

"Variat non raro striga elytrorum humerali, et puncto ante apicem testaceo. Interdum et apex rufescit.

Habitat Dresdæ in stercore bovino. Dn. Zenker." *Panzer. l. c.*

Obs. This species does not appear to be described by any other author.

APHODIUS.

ictericus, clypeo trituberculato, antice ferrugineo, corpore elongato cylindrico, elytris lividis, sutura fuscescente.

Scarabæus *ictericus*. Payk. Faun. Suec. 1. 17. 21.

Habitat stercore, prope Londinam.

Long. Corp. 2—$2\frac{1}{4}$ lin.

Caput obscure ferrugineum, postice fuscescente, clypeo rotundato, subemarginato. Thorax subtus flavescens, supra niger, margi nelaterali late, summoque antico flaves centibus, parum con-

vexus, oculo armato subtillissime confertissime punctatus. Scutellum minutum, triangulare, fuscescens. Elytra valde convexa, punctato-striata. Pectus et abdomen rufo-picea. Pedes lividi. *Payk. l. c.*

TRICHIUS. Fab. Ent. Syst.

variabilis, niger thorace utrinque puncto baseos, elitrisque duobus flavis.

Trichius *octopunctatus*. Fab. Ent. Syst. 2. 3. 119. Panz. Faun. Ent. Germ. cum icone.

Scarabæus *variabilis*, muticus ater lævis opacus, elytris albo punctatis. Lin. Faun. Suec. 402. NOST. TAB. 1. fig. inf.

Simillimus precedenti (S. nobilis, Lin.) sed totus ater, nisi quod in elytris puncta aliquot rariora alba, hinc inde occurrentia. *Lin. l. c.*

Long. Corp. 10 lin. lat. $6\frac{1}{2}$.

Bis captus, supra quercûs truncos apud Penge Common prope Londinum, anno 1806.

Musæo communicavit amicissimus J. Howard, Insectorum Angliæ collector indefessus.

APATE. Fab. Syst. Eleut.

Capucinus, niger elytris abdomineque rufis, thorace emarginato retuso.

Fab. Syst. Eleut. 2. 381. 12.

Dermestes *Capucinus*. Lyn. syst. Nat. 2. 562. 5. Faun. Suec. 416.

Panz. Faun. Ent. Germ. cum icone.

Habitat in Europæ truncis arborum. Fab.

Long. Corp. 5.

Obs. There is a specimen of this Insect preserved in the Entomological Cabinet, which was taken alive by a London Collector, in the vicinity of the City; agreeing precisely with the above cited figure of Panzer.

NECROPHORUS. Fab. Syst. Eleut.

bimaculatus, niger, fronte, antennarum clavâ, coleoptrorum marginibus, maculisque duabus subterminalibus ferrugineis. Tab. Nost. 2. fig. sup.
Habitat rarissime prope Londinum. Musæo Entomologico communicavit J. Howard.
Long. Corp. 14 lin.

Descriptio. Facies Necrophori, Humatoris sed magis piceo-niger, pilis ferrugineis nec nigris, in corpore, tarsis tibiisque subtus; paucisque ad elytrorum margines ferrugineas. Ceteris elytri singuli maculâ exceptâ convenit N. Humatori.

Obs. Silpha rufifrons of an anonymous work, entitled "Elements of Natural History," comes near this species, but should seem to differ in being smooth and black, and in having ferruginous feet. In N. bimaculata, the margins of the impressedly punctated, and elevatedly striated elytra, are not black but ferruginous, and the legs are not ferruginous but black, with some ferruginous hairs on the under sides of the tibiæ and tarsi.

SILPHA. Lin.

bicolor, niger, elytris punctatis ferrugineis lineis tribus elevatis.
Habitat in Com. Ebor. Nova species.
Long. Corp. 8 lin.

J.P.Neale. del. & sc.

Musæo communicavit, ejus captor amicus H. E. Strickland.

S. obscuræ valde affinis at alia, thorace antice angustiore, punctis elytrorum minoribus et confertioribus sæpeque confluentibus, unde elytra rugulosa evadunt; tarsi, os, antennarum palporumque apices, et precipue ungues, certo situ picei ut in illa. Abdomen supra ferrugineum.

Obs. This must not be confounded with Silpha bicolor of Ent. Brit. which is a widely different Insect, and belongs to a different genus.

STENOCORUS. Fab. Syst. Eleut.

4-*maculatus*, thorace spinoso, scabro, elytris bidentatis: maculis binis glabris.

Fab. Syst. Eleut. 2. 308. 16.

Cerambyx 4-*maculatus*. Lin. Syst. Nat. 2. 627. 27.—Drury's Insects 1. tab. 37. fig. 3.

Habitat rectius, in America Meridionali; at nuper captus in Com. Essex. Rustico.

Long. Corp. Mas. 10 lin. Fem. 13 lin.

Obs. There was a living specimen of this species lately caught in a field, by a countryman, in the county of Essex, and communicated by him to Mr. J. Howard, of Kingsland, in whose collection it is now preserved. It seems indeed extraordinary, that a South American Insect should inhabit England; but the circumstance of its being found alive, and apparently in a state of nature, obliges us either to admit it in the British Fauna; or to exclude several other Insects of no better claim. It is there-

fore proper not to exclude it; for, as Dr. Berkenhout observes, on another occasion, "If such are "not *ancient* Britons, they are Britons nevertheless."

The Brown Rat, the Cockroaches, and the Bed Bug, &c. &c. are not aboriginal natives of our Island: although now, to our sorrow, completely naturalized.

LAMIA. Fab. Syst. Eleut.

dentator, thorace spinoso fusco cinereoque varia.

Fab. Ent. Syst. 1. pars 2. p. 278. 43. TAB. NOST. 1. fig. sup.

Statura et magnitudo L. sutor. Antennæ corpore triplo longiores, ferrugineæ, basi nigræ. Corpus totum fusco cinereoque varium. Tibiæ intermediæ compressæ versus apicem dente parvo dorsali. *Fab. l. c.*

Habitat in Carolina, Georgia, et nunc etiam in Anglia, i. Jun.

Long. Corp. 13 lin. antennarum, 3 unc. 7 lin.

OBS. This very interesting Insect was exhibited before the Entomological Society at their last September meeting, by the Treasurer, Mr. T. G. Ingall, with a ticket, bearing these words:—"Taken in the "area of a house in Gloucester Street, Hoxton, "August 10th, 1806, and brought to me the next "day, alive and active.

"T. G. INGALL."

"N.B. One end of Gloucester Street opens to "Islington Fields."

OBS. 2. It is more than probable, that this fine species, like Cerambyx violaceus, and perhaps C.

fulminans of Sowerby's Br. Mis. and Stenocorus quadrimaculatus above mentioned, have originally been imported into Britain in timber; but if such species prove capable of enduring this climate, they become to all intents and purposes natives: and it is impossible to say how many insects may originally have so become inhabitants. It is therefore the duty of our Faunists to enroll them as such; taking good care to notice the peculiarities of their times and places of appearance.

DONACIA. Fab. Syst. Eleut.

Zosteræ, thorace rufo, nigro, bimaculato, elytris fuscis rufo-striatis, apice bidentatis.

Fab. Syst. Eleut. 2. 127. 3.

Rhagium *muticum*. Fab. Ent. Syst. 2. 306. et Paykull, Faun. Suec.

Donacia *appendiculata*. Panz. Faun. Ent. Germ. cum icone.

Habitat Angliæ plantis aquaticis, prope Kingston upon Hull. Musæo communicavit ejus captor amicus. Gul. Spence, F. L. S. lynceus entomologus.

Long. Corp. $2\frac{1}{2}$ lin.

HYDROPHILUS. Fab. Syst. Eleut.

marginellus, ater, nitidus, thoracis elytrorumque margine rufo.

Fab. syst. Eleut. 1. 252. 19.

Habitat Angliæ aquis, apud Kingston upon Hull. Musæo communicavit ejus captor ami-

cus P. G. Watson, F. E. S. indefessus entomologus.

Long. corp. $1\frac{1}{2}$ lin.

HYDROPHILUS.

melanocephalus, ovatus, testaceus, capite thoracisque disco nigris.

Fab. Syst. Eleut. 1. 253. 23.

Habitat in aquis stagnantibus, prope Londinum, at rarissime, mense Junii.

Long. corp. $2\frac{1}{2}$ lin.

Medius, convexus, caput atrum, thorax ater, margine omni testaceo. Elytra sublævia testacea *Fab. l. c.*

Obs. This species is very closely allied to H. dermestoides of Ent. Brit. which is the D. minutus of Fab. and Paykull.

HYDROPHILUS.

foveolatus, niger, thorace postice foveolato, elytris striâ unicâ impressâ.

Habitat in aquis stagnantibus prope Londinum, Junio.

Long. corp. $\frac{1}{4}$ lin.

Descr. Statura et magnitudo H. bipustulati, Ent. Br. Nova species. Nitens, caput atrum, thorax niger, ad lateres pallidus; postice, at singulum latus versus, bi-vel-tri-foveatus, et tunc foveis triangulatim positis anteriori minori, satis magnis confluentibus, at certo situ tantum conspi-

cuis. Elytra nigro-picea, lente subtilissime, confertissime punctulata, striâ unicâ fere ad suturam impressâ; pedes sordide ferruginei,

ELOPHORUS. Fab. Syst. Eleut.

marinus, fronte bipunctata, thorace æneo, transversim impresso, elytris punctato-striatis, pedibus pallidis.

Payk. Faun. Suec. 247. 7.

Habitat ad littora salina prope Kingston upon Hull. G. Spence ejus captor communicavit.

Long. corp. $\frac{3}{4}$ lin.

Caput viridi-æneum, nitidum, punctis duobus interocularibus impressis, antennæ flavescentes. Thorax supra viridi-æneus, fossulis duabus profundis tranversis arcuatis medio, foveolaque utrinque obsoleta laterali, elytra sub nigro-ænea, striis decem integris punctis minutis impressis. Subtus niger. Pedes pallidi, ferruginei. *Payk. l. c.*

OBS. This insect with E. elongatus Fab. (which is Hydrophilus Cicindeloides of Ent. Brit.) Hydr. longipalpis. H. impressus. H. lutosus, and perhaps, H. luridus of Ent. Brit. recede materially in appearance, from the other Elophori, and will probably hereafter form a new genus. Hydrophilus piceus likewise differs so greatly from H. scarabæoides (fuscipes Ent. Brit.) that we are not satisfied at their being in one genus.

HYDRACHNE. Fab. Syst. Eleut.

gibba, brunnea, sericeo nitens.

Fab. Syst. Eleut. 1. 25. 6. 2.

Habitat frequens æstate, in aquis stagnantibus prope Londinum.

Long. corp. 2. lin. lat. $1\frac{1}{4}$ lin.

ovalis, glabra, punctata, nigricans.

Fab. Syst. Eleut. 1. 256. 3.

Habitat cum priore.

Long. corp. 2. lin. lat. $1\frac{1}{2}$ lin.

Obs. As the two lastmentioned insects appear sufficiently distinct; and as the account of Dytiscus ovalis of Ent. Brit. probably belongs to both, but rather confusedly, their specific characters are here given from Fabricius's last work; in which, together with D. Hermanni, and an Indian species, called H. Scripta, they are formed into the genus Hydrachne; which indeed seems a natural and distinct one.

DYTISCUS. Fab. Syst. Eleut.

ater, ater, elytris, puncto apicis fenestrato, antennis, pedibusque ferrugineis.

Fab. Syst. Eleut. 1. 264. 33.

Panz. Faun. Ent. Germ. cum icone.

Habitat in aquis stagnantibus prope Londinum, at infrequens. Musæo communicavit ejus captor, amicissimus R. Scales, V. P. E. S. acutus entomologus.

Long. corp. 5. lin.

Obs. Simillimus D. obscuro Ent. Brit. at duplo

minor et alius, a D. fenestrato Ent. Brit. (nec Fab.) differt elytris nigris nec æneis. In aquis stagnantibus, apud Battersea Fields, vide vivum.

DYTISCUS.

notatus, fuscus, thorace flavo, punctis quatuor nigris, elytris stria suturali flava.

Fab. Ent. Syst. 1. 195. 38.

D. frontalis Ent. Br.?

Habitat in Norfolciæ aquis stagnantibus, ubi bis cepi.

Long. corp. $5\frac{1}{4}$ lin.

Thorax, colore variat, mox rufus, mox punctis, mox fascia abbreviata nigris. Elytrorum margo flavescit. *Fab. l. c.*

Obs. This species is extremely like D. collaris Ent. Brit. but the elytra are blacker, and want the minute pale markings of that species.

DYTISCUS.

6-*pustulatus*, ater, capite ferrugineo, elytris maculis tribus rufis: baseos majore.

Fab. Ent. Syst. 1. 196. 43.

Habitat aquis stagnantibus, prope Londinum.

Long. corp. $1\frac{1}{2}$ lin.

Minutus, caput ferrugineum oculorum regione nigra. Thorax niger, lateribus ferrugineis. Elytra glabra, lævia, nigra maculis tribus ferrugineis, prima baseos majore, lunata, reliquis duabus versus marginem. Corpus atrum pedibus ferrugineis. *Fab. l. c.*

Obs. This species is extremely like D. lituratus, but is smaller and darker.

DYTISCUS.

flavipes, planus, ater, elytris basi pedibusque ferrugineis.

Fab. Ent. Syst. 1. 201. 67.

Habitat in aquis stagnantibus, apud Coomb, copiose.

Long. corp. $1\frac{1}{2}$ lin.

Parvus planus, caput atrum puncto utrinque impresso. Antennæ ferrugineæ. Thorax ater, immaculatus. Elytra lævia, atra basi ferruginea. Corpus atrum, pedibus ferrugineis. *Fab. l. c.*

Obs. It is nearly allied to D. humeralis, but is smaller, less pubescent, and has the impressed pair of dots on the head more conspicuous.

DYTISCUS.

erythrocephalus, ovato oblongus, niger, capite pedibusque rufis.

Lin. Faun. Suec. 2. 16. 774.

Habitat in aquis stagnantibus prope Londinum.

Long. corp. $1\frac{3}{4}$ lin.

Descr. Magnitudo seminis oryzæ, supra lævis, niger. Caput exceptis oculis, rufum. Pedes rufi. Antennæ nigræ. *Lin. l. c.*

Obs. This and the next are closely allied to the last.

DYTISCUS.

nigrita, ater, immaculatus, antennis pedibusque ferrugineis.

Fab. Ent. Syst. 1. 201. 69.

Habitat in aquis stagnantibus, at rarissime prope Londinum.

Long. corp. $1\frac{1}{2}$ lin.

Minutus, latus, ater, glaber, immaculatus. Antennæ et pedes magis ferrugineæ.

Fab. l. c.

DYTISCUS.

assimilis, subovato-gibbus, lævis, glaber, thorace nigro, bipunctato, elytris ferrugineo nigroque lineatis.

Payk. Faun. Suec. 1. 236.

Habitat in aquis Eboracensibus.

Long. corp. $2\frac{1}{3}$ lin.

Musæo communicavit ejus captores amici P. G. Watson et G. Spence.

Excutellatus, caput subtus obscure, supra dilute ferrugineum, basi nigra; oculi pupillati. Thorax subtus obscure, supra dilute ferrugineus, convexus, punctis duobus approximatis baseos, margineque summo antico nigris. Elytra ferrugineo nigroque lineata, margine exteriore inæqualiter ferrugineo. Pectus, abdomen, et pedes obscure ferruginei.

Payk. l. c.

Obs. This must not be confounded with the D. assimilis of Ent. Brit. which is considerably smaller,

and belongs to a different section, whose characters are almost sufficient to form a new genus, and of which in Britain there are nearly twenty species.

The present D. assimilis is very closely allied to D. elegans, of Ent. Brit. which is perhaps, the D. depressus of Paykull.

DYTISCUS.

geminus, thorace lineâ duplici impressâ, elytrisque striis duabus impressis, secunda abbreviata.

Dytiscus *geminus*, oblongus, ater, thorace punctis duobus, elytris lineolis duabus baseos, punctoque apicis albis.

Fab. Syst. Eleut. 1. 272. 75.—Ent. Syst. 1. 199. 60.

Dytiscus *trifidus*. Panz. Faun. Ent. Germ. cum icone?

Dytiscus *unistriatus*, elytrorum stria unica. Schrank Austr. 205, 387.

Habitat, in aquis stagnantibus, Junio, prope Coomb Wood.

Long. corp. 1 lin.

Descr. Vix pulicis maris magnitudine. Caput nigrum. Thorax saturate fuscus, post cujus medium linea duplex leviter curva exarata, in elytrorum basi continuanda. Cæterum nec puncta, nec striæ, dempta unica prope marginem cujusvis elytri inferiorem, quæ simplex nec punctata est. Color elytrorum minus, quam thoracis, fuscus; basi, margine exteriori, et apice flavo. *Schrank. l. c.*

CARABUS.

glabratus, apterus ater elytris lævissimis unicoloribus.

Fab. Ent. Syst. 1. 125. 4.—Tab. Nost. 2. fig. inf.

Habitat rarissime in comitatu Surrejano. Cepit et communicavit amicus Rev. S. Bale.

Long. Corp. 11 lin.

Statura C. violacei totus ater, nitidus, lævissimus. *Fab. l. c.*

CARABUS.

arvensis, apterus nigro-cupreus elytris striatis: punctis excavatis triplici serie.

Fab. Ent. Syst. 1. 128. 17.

Habitat in Com. Surrejano. Communicavit ejus captor R. Scales.

Long Corp. 9 lin.

Corpus atrum nitidum. Caput et Thorax obscure cuprea. Elytra striata, obscuriora margine cupreo punctisque excavatis triplici serie. *Fab. l. c.*

CARABUS.

striatus, alatus niger, thorace obcordato postice foveolâ bilobâ, elytris profunde novem striatis, punctis tribus discoidalibus.

Payk. Faun. Seuc. 115. 24.

Habitat in locis humidis inter plantarum radicalia folia, Jun. Hortis.

Long. Corp. $9\frac{1}{2}$ lin.

CARABUS.

vivalis, niger nitidus, elytris striatis; punctus tribus serie impressis, antennis pedibusque rufis.

Kug. n. 28.—Panz. Faun. Ent. Germ. cum icone, nomine nivali.

Habitat Com. Ebor. Cepit et communicavit G. Spence.

Long. Corp. $3\frac{1}{4}$ lin.

Alatus. Totus ater nitidus, præter palpos antennas pedesque, que ferruginea. *Panz. l. c.*

Obs. This is closely allied to the last.

Secalis, thorace rotundato, ferrugineus pedibus pallidioribus, elytris remotis, integris, punctato-striatis. Payk. Faun. Suec. 1. 146. 53.

Habitat. Com. Ebor. Cepit et communicavit G. Spence.

Long. Corp. $1\frac{3}{4}$ lin.

Caput ferrugineum: oculi nigri. Thorax ferrugineus, glaberrimus, valde convexus marginatus, antice transversus, postice angustato rotundatus; lineola longitudinali, punctisque ordinariis vix ullis. Elytra ferruginea, a thorace remotiora, integra, convexa, punctato-striata, margine exteriore læviore. Pectus et abdomen ferruginea. Pedes flavo pallidi. C. truncatello vix major.

Obs. Color ferrigineus interdum in fuscum transit: elytris a thorace remotis præsertim distinguitur. *Payk. l. c.*

STAPHYLINUS.

armatus, ater, vertice spina gemina porrecta, thoracis antico in cornu acutum protenso, elytris anoque rufis, pedibus piceis.

Panz. Faun. Ent. Germ. cum icone.

Habitat in Com. Cant. Communicavit ejus captor amicus G. Skrimshire, F. E. S. acutus entomologus.

Long. corp. 3 lin.

Statura St. fulgid. ast. minor. Caput atrum transversum læve, vertice spina utrinque porrecta. Mandibulæ exertæ fuscæ forcipatæ, dentatæ. Oculi protuberantes atri. Antennæ fuscæ, articulis extimis crassioribus. Thorax ater sub-orbiculatus vage punctatus, dorso lineola incisa, antice in apophysin acutam terminatus. Collare rufum Elytra rufa punctis plurimis impressa, macula scutellari triangulari nigra. Abdomen nigrum, ano rufo. Pedes picei, tibiis mediis serrulatis. Corpus subtus obscure fuscum nitidulum. *Panz. l. c.*

Obs. The armed head and thorax of this anomalous species of Staphilinus, communicates to it a most extraordinary and interesting appearance. It is said to be taken on the banks of rivers, near the water, and agglutinated was sent safe to Chelsea in a letter, by the post. The supposed female is unarmed.

HEMIPTERA.

NOTONECTA. Fab. Syst. Rhyng.

furcata, elytris fuscis: maculis duabus baseos testaceis; apice bifidis.

Fab. Syst. Rhyng. 102. 2.

Habitat in aquis stagnantibus prope Londinum, infrequens.

Long. corp. 8 lin.

Obs. This is a new species to Britain, closely allied to N. glauca, and the largest of the genus: but it is not the only new one of size to this country we are acquainted with; having seen N. maculata of Fab. in two cabinets, and also a nondescript species resembling it, in the collection of Mr. Scales.

An account of these species, with others, it is my intention to lay before the Society, in the shape of a monograph on the Linnæan genus Notonecta, accompanied, if practicable, with figures of all the known species, indigenous and exotic. After which, my attention will be directed to the Linnæan genus Nepa; but, in the mean time, may here be first announced as a British Insect,

SIGARA.

coleoptrata, elytris totis coriaceis fuscis, margine exteriori flavo.

Fab. Syst. Ent. 60. 3.

Panz. Faun. Ent. Germ. cum icone.

Habitat Sueciæ aquis, atque in Germania, et nunc etiam vidi Norfolciæ aquas lentè fluentes subfrequens.

N°4

W. Neale. del. Sc

Long. corp. $1\frac{3}{4}$ lin.

Præcedenti (S. striata) affinis. Caput cum rostro flavum, immaculatum. Thorax fuscus, postice rotundatus. Elytra tota coriacea, fusca margine exteriori flavescente, pectus et pedes pallida. Abdomen nigrum. *Fab. l. c.*

LEPIDOPTERA.

SPHINX.

Galii, alis integris virescentibus: vitta alba, posticis pallidis: basi strigaque atris, antennis fuscis.

Fab. Ent. Syst. 3. 368. 38.

Hübner's Schmet. Sph. tab. 12. f. 64.

Habitat in Germania Galiis; et etiam cum Sph. formosa Euphorbiæ, agros Angliæ ornat.

Long. corp. 3 unc. 1 lin.

Affinis S. Euphorbiæ. Differt tamen antennis vix apice albis, abdominis punctis dorsalibus albis alisque subtus obscurioribus. *Fab. l. c.*

Obs. This species is most unquestionably distinct from S. Euphorbiæ; but is with difficulty discriminated from that beautiful Insect. The abdominal white spots, however, separate them; the white mark on the thorax, the darker exterior portion of the upper less rosy wing; the deeper, more terminal, and blacker band, near the margin of the under wing, and more especially, the broad dusky border of both the wings beneath; which, in my S. Euphorbiæ, are not bordered at all.

I have long possessed a British specimen of S. Galii, from the cabinet of Captain Lindegren, but mistook it for a variety of S. Euphorbiæ; until Colonel Montague, (so respectably known to the public by his works on Birds and Shells) informed me, in a letter to my friend the Rev. Mr. Vaughan, that he (Colonel M.) had taken the larvæ of both Sphinx Galii and Euphorbiæ, in Devonshire, and bred them.

V. *A Catalogue of Insects found in Norfolk. By the Rev.* JOHN BURRELL, A.M.F. L.S. and F.E.S.

THE woods and dales, which present themselves so near my habitation—the neighbourhood of the sea-coast; extensive salt marshes; and not a diminutive heath; afford me so many opportunities of examining the various subjects of our beloved Science, that I feel with what eagerness the Society expect some exertions on my part to fulfil those laws, which we have drawn up for the government of our Institution. Little however, I fear, will be found amongst my communications deserving a place in your Journals.

Unable, from many professional and private causes, to visit the metropolis in any frequency, I am in a great measure shut out from those sources of information, which may be derived by more fortunate members from the well-stored cabinets and extensive libraries of the most celebrated English Entomologists. Hence many of my labours may prove superfluous. The subjects may long since have been given to the Entomological world, though new to me. Still I shall work with cheerfulness, and use my utmost endeavours; hoping that my discoveries will not be fewer than what I have in my former correspondence with my intimate friend, now our worthy President, supplied to the Entomological Cabinet.

But whilst these detached communications will be made only at distant periods, I have meditated to send you a catalogue of Insects found in Norfolk. Of the suitableness of such a subject to the designs of the Institution I entertain no doubt, it being certainly a

grand desideratum to ascertain the products of each county in the kingdom, and to mark the various soils and situations which furnish pabulum for the little creatures we profess to study. Such a collection of information would throw considerable light into the œconomy of Insects, and make our researches into the more minute branches thereof much more easy and pleasant. The mode of giving these county catalogues will vary according to the taste and ability of the communicator, and probably it would be of essential service in our pursuits, were one uniform method prescribed.

To some it will appear, that they ought to assume the appearance of a regular synopsis, after the plan of Berkenhout; others would be contented with a more concise form. The latter may undoubtedly do much which will promote our knowledge in the classes of of Coleoptera and Lepidoptera, since the Entomologia Britannica and Lepidoptera Britannica would enable them to shorten their descriptions; but in the other classes the synoptical mode of Berkenhout, with addition of a few synonyms, &c. I should conceive absolutely requisite. But to proceed with my catalogue of insects found in Norfolk.

COLEOPTERA.

In this class, Mr. Marsham's excellent volume is in itself a storehouse of information to the British Entomologist; and as no collector can be without this work in his library, I shall deem it sufficient to refer to the Ent. Brit. for every insect he has described, and to give also a synonymn of some one or more of our english authors who have figured the same. When

a species to be enumerated in this catalogue, has not been described by the celebrated author of Entom. Brit. I shall insert a more ample account. And as the works I mean to quote are but few, they will be signified by single abbreviations as follow:

L. Linnæi Systema Naturæ, edit. 13.
F. Fabricii Systema Entomologia.
M. Marsham's Entomologia Britannica.
D. Donovan's British Insects.
S. Sowerby's British Miscellany.
Mart. Martyn's English Entomology.
Sh. Shaw's Naturalist's Miscellany.
P. Panzeri Faunæ Insectorum Germanicæ Initia.
Payk. Paykull Fauna Suecica.

1. SCARABÆUS. BEETLE.

A. The insects of this division live chiefly in the dung of animals; some species making holes for a few inches deep in the ground, immediately under the lump of dung, into which they, with some celerity, retreat on the approach of danger, and in which they produce their larvæ. Others produce their larvæ in the dung itself. Their œconomy is the less known, from the nauseous mode of their living. Seldom are they to be surprised in statu copulationis. A difficulty attends the educating, as no easy mode has hitherto been discovered to keep their pabulum and habitation of a proper degree of temperature. But thus far has been learnt from attention to the appearances of these Scarabæi, when taken, that many of those species which are black in full age, pass through

two other different colours in their transformation from the larva state, being at first of a whitish hue, then red, and finally black.

1. Typhæus. Bull-Comber.
   M. 1. 7. 1. Mart. t. 1. f. 3. 4.
   Long. corp. 9 lin. lat. (elytris conclusis) 4 lin.
   Frequens in Ericetis. Martio. Sept. f.
2. pumilus. Dwarf Bull-Comber.
   M. 1. 8. 2. S. t. 57.
   Long. corp. 5 lin. lat. 3 lin.
   Cum priore infrequentissime. Martio. Sept.
   Mr. Marsham has described this as a distinct insect, in which I have not the least hesitation to pronounce his judgment to be accurate. The thorax of this species has its sides very rugose, and wants the line and three foveolæ, which appear on the thorax of Typhæus. Typhæus has its thorax nearly smooth, except a foveola at the base of its discal longitudinal line, and one on each side of that line almost central between the bases of the middle and lateral cornua.
   Pumilus varies in size, being found occasionally of seven lines in length, and proportional breadth.
3. mobilicornis. Loose-horned Beetle.
   M. 1. 8. 3. Mart. t. 4. f. 40. 41.
   Long. corp. 4 lin. lat. 2 lin.
   Hab. Tres vel quatuor cepi volantes. Jun. f.
   Elytra sæpe subferruginea, sæpe subcastanea.
4. erraticus. Erratic Beetle.
   M. 1. 9. 5. Mart. t. 4. f. 37.
   Long. corp. 4 lin. lat. corp. 1½ lin.
   Habitat in stercore bovino. Maio et seq.

5. sordidus.

M. 1. 10. 6. Mart. t. 2. f. 13.

Long. corp. $3\frac{3}{4}$ lin. lat. $1\frac{1}{8}$ lin.

Habitat in stercore bovino. Maio.

6. ictericus. Sc. clypeo trituberculato, antice ferrugineo, corpore elongato cylindrico, elytris lividis, sutura fuscescente.

Von Moll. Nat. Hist. brieve, 1. 168. 13. (Citatione Payk.) Payk. 1. 17. 21.

Long. corp. $2\frac{1}{4}$ lin. lat. 1 lin. Var. minor.

Hab. in stercore bovino. Aug.

Obs. Differt a Sc. mardario clypeo tuberculato, et a sordido thoracis basi non pallido.

7. fimetarius. Dung Beetle.

M. 1. 10. 7. Mart. t. 3. f. 22.

Long corp. $3\frac{1}{2}$ lin. lat. 1 lin.

Hab. in stercore copiosé. Maio et seq.

8. unicolor.

M. 1. 11. 9.

Long. corp. $2\frac{1}{3}$ lin. lat. 1 lin. Var. minor.

Hab. in stercore equino. Jul. f.

9. conflagratus.

M. 1. 11. 10. D. t. 10. f. 2.

Long. corp. 3 lin. lat. corp. $1\frac{1}{8}$ lin.

Hab. in stercore. Jun.

10. Conspurcatus.

M. 1. 12. 13. Sc. stieticus. P. 58. t. 4.

Long. corp. $2\frac{1}{2}$ lin. lat. 1 lin.

Hab. in stercore equino. Jun.

11. attaminatus.

M. 1. 13. 15.

Long. corp. $2\frac{1}{2}$ lin. lat. $\frac{1}{4}$ lin.

Hab. in stercore equino. Jun.

12. ciliaris.

M. 1. 14. 17.

Long. corp. 3 lin. lat. 1 lin.

Hab. in stercore equino copiosissime. Sept. toto.

13. centrolineatus.

M. 1. 14. 18.

Long. corp. 2 lin. lat $\frac{1}{4}$ lin.

Hab. in stercore non frequens. Jun.

14. bilituratus.

M. 1. 15. 19.

Long. corp. 2 lin. lat. $\frac{1}{4}$ lin.

Hab. in stercore. In Musæo D. Gulielmi Hooker.

15. sphacelatus.

M. 1. 15. 20.

Long. corp. $2\frac{1}{2}$ lin. lat. 1 lin. Var. minor.

Hab. in stercore equino copiosissime. Æstate toto.

16. Fossor.

M. 1. 16. 24. Mart. t. 3. f. 30.

Long. corp. 6 lin. lat. 2 lin.

Hab. in stercore equino frequentissime. Jun.

17. terrestris.

M. 1. 17. 26. Mart. t. 2. f. 14.

Long. corp. $2\frac{1}{2}$ lin. lat. 1. lin.

Hab. in stercore. Æstate toto.

18. pusillus.

M. 1. 18. 27. P. 49. t. 11.

Long. corp. $2\frac{1}{2}$ lin. lat. 1 lin.

Hab. in stercore. Jun.

19. subterraneus.
M. 1. 18. 29. Mart. t. 4. f. 33.
Long. corp. 3 lin. lat. 1 lin.
Hab. in stercore equino. Jun.

20. hæmorrhoidalis.
M. 1. 19. 30. Mart. t. 4. f. 31.
Long. corp. $2\frac{1}{4}$ lin. lat. $\frac{3}{4}$ lin.
Hab. in stercore. Jun.

21. granarius.
M. 1. 19. 31. P. 43. t. 3.
Long. corp. 2 lin. lat. $\frac{3}{4}$ lin.
Hab. in stercore ovino. Jun.

22. stercorarius.
M. 1. 20. 32. Mart. t. 3. f. 25.
Long. corp. 1 unc. lat. 5 lin.
Hab. in stercore. Maio et seq.
Vespere volat cum susurro.

23. Spiniger.
M. 1. 21. 33. S. t. 35. f. 1.
Long. corp. 1 unc. lat. 5 lin.
Hab. in stercore. In Ericetis. Sept. f.

24. Mutator.
M. 1. 22. 35.
Long. corp. $9\frac{3}{4}$ lin. lat. $6\frac{1}{4}$ lin.
Hab. in stercore. In Musæo D. J. Hooker.

25. niger.
M. 1. 22. 36.
Long. corp. 8 lin. lat. 5 lin.
Hab. In Musæis D. Hooker.

26. vernalis.
M. 1. 23. 37. Mart. t. 2. f. 9.
Long. corp. 8 lin. lat. 5 lin.

Hab. in locis arenosis. Aug.

27. sylvaticus.
M. 1. 23. 38.
Long. corp. 8 lin. lat. 5 lin.
Hab. in stercore equino. Æst. toto.

28. sabulosus.
M. 1. 24. 39. Mart. t. 3. f. 26.
Long. corp. $4\frac{1}{2}$ lin. lat. 2 lin.
Hab. Bis cepi in septi postis fraxineos.

29. arenarius.
M. 1. 25. 41.
Long. corp. $3\frac{1}{4}$ lin. lat. 2 lin.
Hab. Captus a D. Deere, qui misit ad Gul. Hooker.

30. rufipes.
M. 1. 25. 42. Mart. t. 3. f. 29.
Long. corp. 5 lin. lat. 2 lin.
Hab. in stercore. Jul.

31. Gagates.
M. 1. 26. 43. Mart. t. 4. f. 39.
Long. corp. 3 lin. lat. $1\frac{1}{2}$ lin.
Hab. in stercore. Jun.

32. variegatus.
M. 1. 26. 44. P. 47. t. 8.
Long. corp. 3 lin. lat. 1 lin.
Hab. in stercore vaccino. Jun. et seq.

33. luridus.
M. 1. 27. 45. Mart. t. 3. f. 23.
Long. corp. 3 lin. lat. 1 lin.
Hab. cum priore. Jun.

34. nigro-sulcatus.
Mart. 1. 27. 46.
Long. corp. 3 lin. lat. $1\frac{1}{2}$ lin.

Hab. in stercore equino infrequentissime.

35. 4-maculatus.

M. 1. 28. 47. D. t. 70. f. 3.

Long. corp. $1\frac{1}{4}$ lin. lat. $\frac{1}{2}$ lin.

Hab. in stercore ovino. Jul.

36. sanguinolentus.

M. 1. 28. 48.

Long. corp. $2\frac{1}{4}$ lin. lat. $\frac{3}{4}$ lin.

Hab. in stercore equino. Jun. Aug.

37. merdarius.

M. 1. 30. 52. Mart. t. 4. f. 34.

Long. corp. 2 lin. lat. $\frac{3}{4}$ lin.

Hab. in stercore equino. Æstate toto.

38. globosus, Sc. niger, ovato-globosus, scutello minutissimo.

Scarabæus ovalis. S. t. 34.

Long. corp. 2 lin. lat. 1 lin.

Hab. copiose in collibus arenosis juxta mari, in quibus nulla planta crescit, nisi Arundo arenaria. Aprili.

39. porcatus.

M. 1. 30. 54. P. 28. t. 13. non. t. 14. ut Marsham citavit.

Long. corp. $1\frac{1}{2}$ lin. lat.

Hab. in Cucumerariis sub fructibus putridis. Sept. In Musæo D. J. Hooker.

** This family also inhabits and breeds in the dung of animals.

40. nuchicornis.

M. 1. 32. 57. P. 4. t. 1. Mart. t. 1. f. 5. 6. dissimiles.

Long. corp. 3 lin. lat. 2. lin. sed variat magnitudine.

Hab. in stercore. Jul.

41. Cœnobita.

M. 1. 33. 58. P. 48. t. 6.

Long. corp. 4 lin. lat. 2 lin.

Hab. in stercore asino. Jul.

42. Xyphias.

M. 1. 33. 59. Mart. t. 1. f. 6. var. nuchicornis.

Long. corp. 4 lin. lat. $2\frac{1}{2}$ lin.

Hab. in stercore asino. Jul.

43. Vacca.

M. 1. 34. 61. P. 12. t. 4.

Long. corp. 5. lin. lat. $2\frac{3}{4}$ lin.

Hab. In Musæo D. Gul. Hooker.

44. medius. Sc. excutellatus thorace retuso, capitis clypeo linea elevata, occipite bicorni, elytris testaceis nigro maculatis. P. 4.

Long. corp. 4 lin. lat. $2\frac{1}{2}$ lin.

Hab. in stercore equino.

45. ovatus.

M. 1. 35. 63. Mart. t. 4. f. 36.

Long. corp. 2 lin. lat. $1\frac{1}{8}$ lin.

Corpus totum punctulatum.

Hab. in stercore vaccino infrequentissime.

B. The larvæ of this family live chiefly in the ground, consuming the roots of plants. The perfect Insect lives on the leaves and flowers.

46. Melolontha.

M. 1. 86. 65. Mart. t. 2. f. 12.

Long corp. 1 unc. lat. 5 lin.

Hab. larva in terrâ. Imago in Quercu, Abieti, Ulmo. Jun. Jul.

Vespere volitans cum susurro.

47. solstitialis.

M. 1. 38. 66. Mart. t. 2. f. 17.

Long. corp. 9 lin. lat. 5 lin.

Hab. cum priori. Jul. numerosissime.

Vespere volans et susurrans.

48. brunneus.

M. 1. 38. 67. Mart. t. 3. f. 24.

Hab. Captus frequentissime in Lavendulam, horâ nocturnâ, in meo horto. Jul.

49. Frischii.

M. 1. 40. 71. D. t. 390. f. 2.

Long. corp. 6 lin. lat. 3 lin.

Hab. Captus in collibus arenosis juxta Yarmouth, a D. Gul. J. Hooker. Maii. f.

C. The general œconomy of this family seems to accord with that of the last family.

50. auratus.

M. 1. 41. 73. Mart. t. 3. f. 27.

Long. corp. 8 lin. lat. 5 lin.

Hab. in floribus rosæ. In hortis circa Norwich.

51. Horticola.

M. 1. 44. 78. Mart. t. 4. f. 43.

Long. corp. 5 lin. lat. 2 lin.

Hab. in Quercûs foliis : et in floribus, præsertim Rosâ eglanteriâ. Maii. f. et Jul.

52. argenteus.

M. 1. 45. 79. Mart. t. 2. f. 11.

Long. corp. 4 lin. lat. 2 lin.

Hab. in floribus.

53. pulverulentus.

M. 1. 46. 80.

Long. corp. $4\frac{1}{2}$ lin. lat. $2\frac{1}{4}$ lin.

Hab. in floribus.

Amicus meus Rev. T. Skrimshire argenteum et pulverulentum asserat sexus ejusdem speciei.

2. LUCANUS. STAG-BEETLE.

Larva et Imago in arboribus putridis.

1. parallelipipedus.

M. 1. 48. 3. Mart. t. 5. f. 3. 4.

Long corp. 1 unc. lat. 5 lin.

Hab. in putrido Fraxino. Æstate toto.

2. cylindricus.

M. 1. 50. 4. D. t. 368. Synodrendon cylindricum.

Long. corp. 6 lin. lat. $2\frac{1}{2}$ lin.

Hab. cum priore. Æstate toto.

Lege Synonym. Ent. Brit. a Panz. Faun. Germ. "Synodendron cylindricum Panz. Faun. "Germ. 2. t. 1. mas."

And "Synodendron cylindricum. Panz. Faun. "Germ. 1. t. 11. fœm."

3. IPS. TREE-BORER.

1. villosus.

M. 1. 53. 4. P. 15. t. 8.

Long. corp. $1\frac{1}{2}$ lin. lat. $\frac{1}{2}$ lin.

Hab. In Musæo G. J. Hooker.

2. fuscus.

M. 1. 53. 5.

Long. corp. 1½ lin. lat. ½ lin.
Hab. In eodem Musæo.

3. Scolytus.
M. 1. 53. 6. P. 15. t. 6.
Long. corp. 1½ lin. Lat. ¼ lin. Var. magnitudine.
Hab. sub cortice. Captus infrequentissime.

4. varius.
M. 1. 54. 9.
Long. corp. 1½ lin. lat. ½ lin.
Hab. sub cortice Fraxini. Volitans in sole meridiano Aprili.

5. piniperda.
M. 2. 57. 18. P. 15. t. 9.
Long. corp. 1½ lin. lat. ½ lin.
Hab. Semel captus in trunco Pini.

6. rufus.
M. 1. 57. 19.
Long. corp. 1 lin. lat. ½ lin.
Hab. in Auricularia.

I am not sufficiently acquainted with the Fungi to point out species with accuracy, but believe it is the Auricularia tremelloides, With. that rufus prefers: hence also arises an ignorance with me, whether Auricularia be the generic name now used; I have a faint idea it is not.

7. niger.
M. 1. 59. 24.
Long. corp. 1¼ lin. lat. ½ lin.
Hab.

8. ater.

M. 2. 59. 25.
Long. corp. 1½ lin. lat. ½ lin.
Hab.

9. sulcatus.
M. 1. 59. 26.
Long. corp. 2. lin. lat. ½ lin.
Hab. Captus in truncum Fraxini cæsui.

10. Boleti.
M. 1. 59. 27.
Long. corp. 1 lin. lat. ½ lin.
Hab. Semel-captus in Boleto.

5. DERMESTES. LEATHER-EATER.

I have retained the English name of this genus, as I met with it in Letsom's Naturalist's Companion; but it is applicable only to a few of the species, and those are of the first division.

* CORPORE OBLONGO.

The three or four species which stand forward in this division, are found both in the Larva and Imago state, on the putrid carcases of animals, chiefly consuming the skin. They seem more especially to delight in the skin of moles and birds.

The Larva of Serra is a curious ferrugineous one, living under the bark of elms and oaks, where it may be found almost all the year, particularly in the early spring months.

The other species are unknown to me in their Larva state, but are frequent in their perfect growth on the umbels of the mountain ash, &c.

1. lardarius.
   M. 1. 60. 1. Mart. t. 6. f. 8, elytris antice male coloratis.
   Long. corp. 3½ lin. lat. corp. 1⅛ lin.
   Hab. in animalibus putridis. Jun.
2. murinus.
   M. 1. 61. 2. Mart. t. 6. f. 11. non est.
   Long. corp. 3¼ lin. lat. 1⅛ lin.
   Hab. in animalibus putridis. Maio.
3. Pellio.
   M. 1. 63. 6. D. t. 231. 3. Mart. t. 6. f. 9. non bene.
   Long. corp. 2 lin. lat. 1 lin.
   Hab. in pellibus: frequens in domibus. Maio.
4. Serra.
   M. 1. 63. 7.
   Long. corp. 2 lin. lat. 1 lin. Var. minor; forte alter sexus.
   Hab. sub cortice Quercûs, Ulmi. Jun.
   Larva Oniscos devorans per hyemem.
5. flavescens.
   M. 1. 64. 8.
   Long. corp. 1½ lin. lat. 1 lin.
   Hab. in floribus Anethi. Maio.
6. tomentosus.
   M. 1. 64. 9.
   Long. corp. 1½ lin. lat. corp. 1 lin.
   Hab. cum præcedente.
7. fumatus.
   M. 1. 65. 11.
   Long. corp. 1 lin. lat. ½ lin.
   Hab. In Musæo D. Josephi Hooker.

** Corpore ovato, antennarum articulo extremo obtuso.

The greatest part of the species in this second division live on and in the dung of animals.

8. Scarabæoides.
   M. 1. 65. 12. D. t. 231. f. 4.
   Long. corp. 2¼ lin. lat. 1¼ lin.
   Hab. in stercore bovino. Maio. In flore rubi semel cepi.
9. bipustulatus.
   M. 1. 66. 13.
   Long. corp. 2¼ lin. lat. 1¼ lin.
   Hab. in stercore vaccino. Jun.
10. lunatus.
   M. 1. 66. 14.
   Long. corp. 2¼ lin. lat. 1¼ lin.
   Hab. in stercore bovino. Jun.
11. 4-maculatus.
   M. 1. 66. 15.
   Long. corp. 1¼ lin. lat. 1 lin.
   Hab. in stercore bovino. Jul.
12. marginatus.
   M. 1. 66. 16.
   Long. corp. 2 lin. lat. corp. 1⅛ lin.
   Hab. in stercore bovino. Jul.
13. lugubris.
   M. 1. 67. 17.
   Long. corp. 2 lin. lat. 1⅛ lin.
   Hab. in stercore bovino, infrequentissime Jul.
14. humeralis.
   M. 1. 67. 18.
   Long. corp. 1¼ lin. lat. 1 lin.
   Hab. in Auricularia Tabacino. Maii m.

15. ruficollis.
M. 2. 68. 19.
Long. corp. 1⅛ lin. lat. ⅞ lin.
Hab. captus a Dom. Francis.

16. melanocephalus.
M. 1. 68. 20.
Long. corp. 1 lin. lat. ½ lin.
Hab. in stercore equino frequentissime. Æstate toto.
Martyn's figures of Dermestides are in general very badly coloured, even to the disfiguring of his engravings: otherwise I think we might safely cite his t. 6. f. 1. as synonymous with our Melanocephalus.

17. similis.
M. 1. 68. 21.
Long. corp. 1 lin. lat. vix ½ lin.
Hab. In Musæo J. Hooker.

18. piceus.
M. 1. 69. 22.
Long. corp. 1¼ lin. lat. 1 lin.
Hab. cum melanocephalo.

19. lateralis.
M. 1. 69. 23.
Long. corp. 1¼ lin. lat. ½ lin.
Hab. In Musæo J. Hooker.

20. Calthæ.
M. 1. 70. 26. Mart. t. 6. f. 3, if intended for this Insect, is very bad.
Long. corp. 1¼ lin. lat. ½ lin.
Hab. In Musæo J. Hooker.

21. terminatus.

M. 1. 70. 27.
Long. corp. 1 lin. lat. $\frac{1}{4}$ lin.
Hab. in stercore equino. Jun.

22. unipunctatus.
M. 1. 70. 28.
Long. corp. 1 lin. lat. $\frac{1}{2}$ lin.
Hab. in fimo æstuanti. In sole meridiano volans. Vere.

23. quisquilius.
M. 1. 71. 29.
Long. corp. $\frac{1}{4}$ lin. lat. $\frac{1}{8}$ lin.
Hab. in stercore equino: Maio. Jun.

24. boletophagus.
M. 1. 72. 33.
Long. corp. $1\frac{1}{4}$ lin. lat. 1 lin.
Hab. in stercore equino, infrequens.

25. nigriceps.
M. 1. 72. 34.
Long. corp. $1\frac{1}{4}$ lin. lat. $\frac{1}{4}$ lin.
Hab. In Musæis Dom. Hooker.

26. lævis.
M. 1. 73. 37.
Long. corp. 1 lin. lat. $\frac{1}{4}$ lin.
Hab. In Musæo Gul. Hooker.

27. convexus.
M. 1. 73. 38.
Long. corp. $\frac{1}{4}$ lin. lat. $\frac{1}{8}$ lin.
Hab. Captus a Dom. J. Hooker.

28. concinnus.
M. 1. 74. 40.
Long. corp. $\frac{1}{4}$ lin. lat. $\frac{1}{4}$ lin.
Hab. In Musæo D. J. Hooker.

*** Corpore ovato, antennarum articulo extremo acutiusculo.

29. fimetarius.
M. 1. 74. 42.
Long. corp. 1½ lin. lat. ¾ lin.
Hab. in stercore. Jun.

30. consimilis.
M. 1. 75. 46.
Long. corp. 1¼ lin. lat. ¾ lin.
Hab. In Musæo Dom. J. Hooker.

31. ovatus.
M. 1. 76. 48.
Long. corp. 1½ lin. lat. ¾ lin.
Hab. in stercore. Jun.

32. coadunatus.
M. 1. 76. 49.
Long. corp. 1½ lin. lat. ¾ lin.

33. hypomelanus.
M. 1. 77. 51.
Long. corp. 1½ lin. lat. ¾ lin.
Hab. In Musæis D. Hooker.

34. piceorrhœus.
M. 1. 78. 56.
Long. corp. ½ lin. lat. ¼ lin.
Hab.

35. melas.
M. 1. 78. 58.
Long. corp. ½ lin. lat. ¼ lin.
Hab. In Musæo D. J. Hooker.

5. PTINUS. CHAIR-EATER.

Of the œconomy of this genus, I have but a slight knowledge. The Larvæ of some of the species live in decaying household furniture, such as bedsteads, chairs, and tables: others are said to be destructive to collections of dried plants; and others are met with in decaying willows, furze, &c.

The perfect Insects of the first division are frequent in houses, where I believe all of them may be noted for making the sound, which is vulgarly called the death watch.

The British species also of the third divison are frequent in our houses, with the exception of imperialis, which I never remember to have seen in such situation.

* Antennæ articulis ultinistribus reliquis multo longioribus, corpore cylindrico breviores.

1. pectinicornis.
   M. 1. 81. 1. P. 3. t. 7.
   Long. corp. $2\frac{1}{4}$ lin. lat. $\frac{1}{2}$ lin.
   Hab. In Musæo D. W. J. Hooker, mas.
2. pertinax.
   M. 1. 82. 4. P. 66. t. 5.
   Long. corp. 2 lin. lat. $\frac{1}{2}$ lin.
   Hab. in domibus. Jun.
3. cylindricus.
   M. 1. 83. 6.
   Long. corp. $1\frac{1}{4}$ lin. lat. $\frac{1}{3}$ lin.
   Hab. in domibus. Jun.

4. castaneus.
M. 1. 83. 7.
Long. corp. 2¼ lin. lat. 1 lin. Var. minor.
Hab. in domibus, infrequentissime. Jul.

5. tesselatus.
M. 1. 85. 11. Sh. t. 104. Ptinus fatidicus.
Long. corp. 3½ lin. lat. 1⅛ lin.
Hab. in domibus rarissime. Jun. f.

6. rubellus.
M. 1. 85. 12.
Long. corp. 1¼ lin. lat. corp. ½ lin.
Hab. In Musæo Dom. W. J. Hooker.

**Antennæ articulis tribus reliquis majoribus rotundatis sive moniliformibus, corpore cylindrico breviores.

7. Boletorum.
M. 1. 85. 13.
Long. corp. 1½ lin. lat ½ lin.
Hab. in Boletis, Jul. m.

8. inermis.
M. 1. 87. 18.
Long. corp. 1 lin. lat. ⅜ lin.
Hab. in Auricularia. Maio.

*** Antennæ articulis omnibus æqualibus, corpus ovatum aut oblongum subæquantes.

9. imperialis.
M. 1. 88. 24. P. 5. t. 7.
Long. corp. 2½ lin. lat. ½ lin.
Hab. in sepibus Cratægi. Jun. m.

10. Lichenum.

M. 1. 89. 26.
Long. corp. 1 lin. lat. ½ lin.
Hab. in Cloacis. Jun.

11. Fur.
M. 1. 89. 27. D. t. 422.
Long. corp. 2 lin. lat. corp. ½ lin.
Hab. passim in Domibus. Sept.

12. Cerevisiæ.
M. 1. 90. 29.
Long. corp. ¼ lin. lat. ½ lin.
Hab. in Domibus. Aug.

13. testaceus.
M. 1. 91. 31.
Long. corp. 2 lin. lat. ½ lin.
Hab. in Cloacis, per hyemem.

☞ I have not been able to adjust any one of Martyn's Figures, to the Species of this Genus. There appears it is true somewhat of the outline of Fur in his t. 7. f. 1, and of Cerevisiæ in f. 4.

6. HISTER. MIMIC BEETLE.

Another Genus chiefly inhabiting the putrid carcases and dung of animals.

1. unicolor.
M. 1. 92. 1. P. 4. t. 2.
Long. corp. 4 lin. lat. 3. lin.
Hab. in cadaveribus, stercore, passim. Jun.

2. inæqualis.
M. 1. 93. 2.
Long. corp. 4 lin. lat. 3 lin.
Hab. cum priore. Jun.

3. parvus.
   M. 1. 93. 3.
   Long. corp. 2 lin. lat. 1 lin.
   Hab. in cadaveribus. Jun.
4. bimaculatus.
   M. 1. 93. 4.
   Long. corp. 2 lin. lat. 1 lin.
   Hab. in stercore bovino, ovino. Jul. f.
5. bipustulatus.
   M. 1. 94. 5.
   Long. corp. 2¼. lat. 1 lin.
   Hab. I very frequently find this Species concealed under Potentilla argentea in Ozier Holts. Jun.
6. semipunctatus.
   M. 1. 95. 8.
   Long. corp. 3 lin. lat. 2 lin.
   Hab. in cadaveribus, præsertim avibus, corvo, &c. Jun. f.
7. æneus.
   M. 1. 95. 9.
   Long. corp. 2 lin. lat. 1 lin.
   Hab. cum priore. Jun. f.
8. virescens.
   M. 1. 96. 11.
   Long. corp. 2 lin. lat. 1 lin.
   Hab. Captus a Dom. Wilkin apud locum, vulgò Moushold, juxta Nordovicum.
9. duodecim-striatus.
   M. 1. 95. 12.
   Long. corp. 2½ lin. lat. 1¼ lin.
   Hab. in stercore equino. Jul. i.

10. striatus.
    M. 1. 97. 13.
    Non Hister sulcatus. Fab. & Panz. ut Marsham citavit.
    Long. corp. $\frac{1}{4}$ lin. lat. $\frac{1}{8}$ lin.
    Hab. in stercore equino. Jul.
11. sulcatus. H. ater, thoracis basi striis 5 elevatis; elytris striatis, sed tribus magis elevatis. B.
    F. Ent. Syst. 1. 74. 12. Eleut. 1. 89. 31.
    P. 21. t. 10.
    Long. corp. 1 lin. lat. $\frac{1}{4}$ lin.
    Hab. Semel cepi sub fragmento ligni in terram jacentis. Aprilis f.
12. brunneus.
    M. 1. 97. 14.
    Long. corp. $2\frac{1}{2}$ lin. lat. 1 lin.
    Hab. in stercore. In Museis D. Hooker.
13. piceus.
    M. 1. 97. 15.
    Long. corp. $\frac{1}{4}$ lin. lat. $\frac{1}{8}$ lin.
    Hab. in Boleto, infrequentissime. Jul.
14. depressus.
    M. 1. 98. 16.
    Long. corp. $\frac{1}{4}$ lin. lat. $\frac{1}{8}$ lin.
    Hab. Semel cepi.
15. perpusillus.
    M. 1. 92. 18.
    Long. corp. $\frac{1}{9}$ lin. lat. $\frac{1}{6}$ lin.
    Hab. sub lapidibus infrequentissime. Jun.
16. minimus.
    M. 1. 99. 19.
    Long. corp. & lat. vix prioris.

Hab. sub fructibus putridis in cucumariis. Sept.

§ Martyn's six Figures in this Genus are too wretched, even for imagination to fancy a likeness, except t. 8. f. 2. be Hister bipustulatus.

7. GYRINUS. WHIRL BEETLE.

The Larvæ of this Genus are found among water-plants, beneath the surface of the water.

The perfect Insect is also an inhabitant of water-pools, and slow rivulets; continually swimming in whirls upon the surface.

1. Natator.

M. 1. 99. 1. P. 3. t. 5. Mart. t. 7. f. 1.

Long. corp. 3 lin. lat. 1¼ lin.

Hab. in aquis. Apr. & seq.

2. bicolor. G. oblongus, subcylindricus, glaberrimus, elytris punctato striatis, latitudine duplo longioribus.

Fab. Ent. Syst. 1. 202. 2. Eleut. 1. p. 274. 2.

Payk. Faun. Suec. 1. 239. 2.

Long. corp. 3½ lin. lat. corp. 1 lin.

Hab. in aquis. Jun. 1.

I am aware many esteem this only a variety of natator, of which the male is much more slender than the female; but this is still more elongated, and male and female are of equal size. Fabricius indeed expresses himself in his Syst. Eleut.—"Species mihi adhuc dubia."

8. Kirbii.

M. 1. 100. 2.

Long. corp. 1¼ lin. lat. ¼ lin.

Hab. in aquis stagnantibus juxta mare. Aprili. B. in aquis fluentibus apud Wood Bastwick paludem. J. W. Hooker.

8. BYRRHUS.

Of the Larvæ of this family, I am entirely ignorant.

1. Verbasci.

M. 1. 101. 1.

Long. corp. 1 lin. lat. ¼ lin.

Hab. in floribus umbellatis ubique. Maio et seq.

9. CISTELA.

Of the œconomy of this Genus, I know very little; meeting with it only, on warm days, creeping in sand-pits or chalk-pits; or under moss in the winter.

1. Pilula.

M. 1. 102. 1. P. 4. t. 3. Byrrhus Pilula.

Long. corp. 4 lin. lat. 2½ lin.

Hab. in foveis arenosis et cretaceis. Maio et seq. Hyemat sub Muscis.

Martyn's Figure, which he has accounted Cistela pustulata of Forster, greatly resembles this Insect, but I venture not to cite it; as the author of Ent. Brit. who has more opportunity of knowing Forster's Insects, cites his fasciata, and omits both his pustulata

and Martyn's t. 6. Gen. 7. f. 3. However this may be, Martyn's Byrrhus Pilulas t. 6. Gen. 7. f. 1. is not our Insect.

2. undulata.

M. 1. 103. 2. P. 37. t. 14. Byrrhus undulatus.
Long. corp. 4½ lin. lat. 2⅛ lin.
Hab. Semel cepi Maii. i.

3. sericea.

M. 1. 104. 5. P. 32. t. 3. Byrrhus varius.
Long. corp. 2½ lin. lat. 1⅛ lin.
Hab. Hyemat sub Muscis.

4. dorsalis.

M. 1. 104. 6.
Long. corp. 3 lin. lat. 2 lin.
Hab. In Musæo J. Hooker.

5. fusca.

M. 1. 105. 7.
Long. corp. 2¼ lin. lat. 1⅛ lin.
Hab. Hyemat sub Muscis.

6. fasciata. C. nigricans, elytris fascia undata media rufa.

Fab. Eleut. 1. 103. 5. Byrrhus fasciatus.
P. 32. t. 1. Byrrhus fasciatus.
Long. corp. 3 lin. lat. 2¼ lin.
Hab. in quisquiliis. In Mus. J. Hooker.

7. picipes.

M. 1. 105. 9.
Long. corp. 1½ lin. lat. ½ lin.
Hab. In Musæis J. Hooker et Wilkin.

8. picea.

M. 1. 106. 11.

Long. corp. 1¼ lin. lat. ⅓ lin.
Hab. In Museo J. Hooker.

10. CORTICARIA. BARK BEETLE.

This family lives in the bark of various trees; and many of the Species may be found amongst the Hypna and other mosses. Of the Larvæ I am ignorant.

1. taxicornis.
M. 1. 106. 2.
Long. corp. 1½ lin. lat. ¼ lin.
Hab. sub cortice Fagi Maio & seq.

2. oblonga.
M. 1. 107. 3. P. 4. t. 16.
Long. corp. 2 lin. lat. ⅓ lin.
Hab.

3. dermestoides.
M. 1. 107. 4. P. 3. t. 13.
Long. corp. 2½ lin. lat. ⅓ lin.
Hab. Capta a Dom. Wilkin viva in Orygâ.

4. frumentaria.
M. 1. 107. 5. P. 14. t. 11. Dermestes 6-dentatus.
Long. corp. 1½ lin. lat. vix ¼ lin.
Hab. In Oryga capta a Hooker et Wilkin.

5. dentata.
M. 1. 108. 6.
Long. corp. 2 lin. lat. ¼ lin.
Hab. In Museo Gul. J. Hooker.

6. punctulata.
M. 1. 109. 8.
Long. corp. 1 lin. lat. ⅛ lin.

Hab. In Musæis D. Hooker.

7. transversa.
M. 1. 109. 10.
Long. corp. $\frac{1}{8}$ lin. lat. $\frac{1}{4}$ lin.
Hab. infrequentius.

8. impressa.
M. 1. 110. 11.
Long. corp. $\frac{2}{3}$ lin. lat. $\frac{1}{6}$ lin.
Hab.

9. fumata.
M. 1. 110. 12.
Long. corp. 1 lin. lat. $\frac{1}{4}$ lin.
Hab. in Cloacis per hyemen.
This Insect frequently drops into the milk pail whilst my servant is milking in the latter end of March and beginning of April. Does it arise out of the fodder or the putrescent litter; or does it for any cause live amongst the hair of the animal?

10. contracta.
M. 1. 110. 13.
Long. corp. 1 lin. lat. $\frac{1}{2}$ lin.
Hab. In Musæo J. Hooker.

11. pulla.
M. 1. 111. 14.
Long. corp. $\frac{3}{4}$ lin. lat. $\frac{1}{3}$ lin.
Hab. In Musæis D. Hooker et Wilkin.

12. rufa.
M. 1. 111. 16.
Long. corp. 1 lin. lat. $\frac{1}{4}$ lin.
Hab.

13. ruficollis.
M. 1. 111. 17.

Long. corp. ¼ lin. lat. ¼ lin.
Hab. In Musæo J. Hooker.

14. pallida.
M. 1. 112. 22.
Long. corp. ¼ lin. lat. ½ lin.
Hab. In Musæo J. Hooker.

11. SILPHA. CARRION BEETLE.

*Antennæ capitulo magno quadriarticulato, articulis arctè imbricatis. Clypeus orbiculatis, inæqualis.

The Larva and Imago of this division are found in putrid carcases.

1. Humator.
M. 1. 114. 2. Mart. t. 9. f. 6. Silpha Germanica.
P. 41. t. 2. Nicrophorus Humator.
Long. corp. 8 lin. lat. 4 lin.
Hab. in animalibus putridis. Jun.

2. Vespillo.
M. 1. 114. 3. D. t. 23. Mart. t. 10. f. 25.
Long. corp. 9-12 lin. Lat. 4-5 lin.
Hab. in Cadaveribus. Jun.

3. Mortuorum.
M. 1. 115. 4. P. 41. t. 3. Nicrophorus Mortuorum.
Long. corp. 7 lin. lat. 2½ lin.
Hab. in corvis putridis, & aliis Cadaveribus.

** Antennæ sensim crassiores. Elytra abdomen æquantia.

The Larvæ of the larger species of this family also

are found in putrid carcases.—The Larvæ of the other species are not known to me.

4. littoralis.
   M. 1. 116. 5. P. 40. t. 15. Mart. 10. f. 20.
   Long. corp. (mas. et fœm. regnat) 9½ lin. lat. 4 lin.
   Hab. in Cadaveribus putridis.

5. atrata.
   M. 1. 116. 6. Mart. t. 9. f. 2. pessime.
   Long. corp. 6 lin. lat. 3 lin.
   Hab. in Cadaveribus. Maio. Sub Muscis circa arbores hyemat.

6. recta.
   M. 1. 117. 7.
   Long. corp. 8 lin. lat 3½ lin.
   Hab. In cretaceis.

7. thoracica.
   M. 1. 117. 8. D. t. 63. f. 1. Mart. t. 9. f. 11
   Long. corp. 7 lin. lat. 4 lin.
   Hab. in Avibus putridis. Maio.

8. quadripunctata.
   M. 1. 118. 9. D. t. 56. f. 2. The Elytra being somewhat opened when before the Draftsman, this figure has the appearance of a black suture.
   Mart. t. 9. f. 1.
   Long. corp. 7 lin. lat. 3 lin.
   Hab. in Quercûs foliis. In Cadaveribus infrequentissime. Maio. Hyemat sub Muscis.

9. obscura.
   M. 1. 118. 10. D. t. 63. f. 4. Mart. t. 9. f. 12. non bene.

Long. corp. 8 lin. lat. $3\frac{1}{2}$ lin.
Hab. in Cadaveribus. Jun.

10. granulata.
M. 1. 119. 11.
Long. corp. 6 lin. lat. $3\frac{1}{2}$ lin.
Hab. cum priore. Frequens in cretaceis. Jun.

11. lævigata.
M. 1. 119. 12. Mart. t. 9. f. 10.
Long. corp. 6 lin. lat. 3 lin.
Hab. frequens in viis. Jun.

12. sinuata.
M. 1. 120. 14. Mart. t. 9. f. 7. mala.
Long. corp. 5 lin. lat. $2\frac{1}{4}$ lin.
Hab. cum rugosa in Cadaveribus. Maio.
Fœmina sinum caret; sed satis distincta a rugosa.

13. tomentosa.
M. 1. 120. 15.
Long. corp. 5 lin. lat. $2\frac{1}{4}$ lin.
Hab. in Cadaveribus. In floribus aucuperiæ cepi. Maio.

14. rugosa.
M. 1. 120. 16. P. 40. t. 17. et 5. t. 9. Mart. t. 9. f. 5.
Long. corp. $4\frac{1}{2}$ lin. lat. $2\frac{1}{2}$ lin.
Hab. in Corvis putridis frequentissime. Maio & seq.

15. russica
M. 1. 121. 17. Mart. t. 10. f. 14.
P. 50. t. 7. non t. 17 ut errore in Ent. Brit.
Long. corp. 3 lin. lat. 1 lin.
Hab. in Boleto. Aprili. Hyemat sub cortice.

16. Sphæriæ.

M. 1. 122. 21.
Long. corp. 1¼ lin. lat. 3 lin.
Hab. in Sphæriâ fraxineâ. In Musæis D. Hooker.

17. humeralis.
M. 1. 123. 22.
Long. corp. 2 lin. lat. 1 lin.
Hab. In Musæis D. Hooker.

18. rosea.
M. 1. 123. 25.
Long. corp. 1½ lin. lat. ½ lin.
Hab. Cepi in plantis aquaticis.

19. polita.
M. 1. 124. 26.
Long. corp. 1¼ lin. lat. ¼ lin.
Hab. Semel cepi.

20. hirta,
M. 1. 124. 29.
Long. corp. 1 lin. lat. ¼ lin.
Hab. In Musæo J. Hooker.

21. minutissima.
M. 1. 125. 30.
Long. corp. ½ lin. lat. ¼ lin.
Hab. In Musæo eodem.

22. ferruginea.
M. 1. 125. 31.
Long. corp. 1 lin. lat. ½ lin.
Hab. in Boleto. Jun.

***Antennæ sensim crassiores. Elytra abbreviata truncata.

Of the Larvæ I have no information.

23. punctulata.
M. 1. 126. 35.
Long. corp. 1 lin. lat. $\frac{1}{3}$ lin.
Hab. In Musæo D. J. Hooker.

24. unicolor.
M. 1. 127. 37.
Long. corp. $1\frac{1}{4}$ lin. lat. $\frac{1}{2}$ lin.
Hab. In Musæo D. J. Hooker.

25. similis.
M. 1. 127. 38.
Long. corp. 1 lin. lat. $\frac{1}{3}$ lin.
Hab. In eodem Musæo.

26 torquata.
M. 1. 127. 40. P. 24. t. 6.
Hab. in floribus.

27 pulicaria.
M. 1. 128. 43.
Long. corp. $\frac{1}{4}$ lin. lat. $\frac{1}{4}$ lin.
Hab. In Musæo J. Hooker.

28. agaricina.
M. 1. 129. 44.
Long. corp. $\frac{1}{2}$ lin. lat. vix $\frac{1}{3}$ lin
Hab. In Musæo D. Wilkin.

12. NITIDULA.

I have never observed the Larvæ of this genus; the Habitats of the perfect Insect will be mentioned with each species.

1. bipustulata.
M. 1. 129. 1. P. 3. t. 10.
Long. corp. 2 lin. lat. 1 lin.
Hab. in Avibus putridis. Jun.

2. 4-pustulata.
M. 1. 130. 2.
Long. corp. 3 lin. lat. 1 lin.
Hab. Captus a D. T. Skrimshire sub Cortice. Salicis. Jul. i.

3. obscura.
M. 1. 130. 3.
Long. corp. 2 lin. lat. 1 lin
Hab. in Cadaveribus.

4. rufipes.
M. 1. 130. 4.
Long. corp. 1¼ lin. lat. ¼ lin.
Hab. in floribus. Cepi in statu copul. in Meridiano. Jul. i.

5. viridescens.
M. 1. 131. 5.
Long. corp. ⅛ lin. lat. ⅛ lin.
Hab. in Urtica & aliis plantis. Aprili.

6. ruficonis.
M. 1. 131. 7.
Long. corp. 1¼ lin. lat. ¼ lin.
Hab. In Musæo J. Hooker.

7. ænea.
M. 1. 121. 8.
Long. corp. 1 lin. lat. vix ⅛ lin.
Hab. in Urtica & aliis plantis. Maio.

8. cœrulea.
M. 1. 132. 9.
Long. corp. ¼ lin. lat. ⅛ lin
Hab. cum priore.

9. erythropa.
M. 1. 132. 10.

Long. corp. $\frac{1}{2}$ lin. lat. $\frac{1}{4}$ lin.
Hab. in Erysimo. Maio.

10. colon.
M. 1. 132. 11.
Long. corp. $1\frac{1}{2}$ lin. lat. $\frac{1}{4}$ lin.
Hab. in ossibus fere siccatis. Avibus putridis. Jun. i.

11. discoidea.
M. 1. 133. 12.
Long. corp. $1\frac{1}{2}$ lin. lat. $\frac{1}{4}$ lin.
Hab. in Avibus putridis: Ossibus medullariis fere siccatis frequentissime copulat. Maio & seq.

12. depressa.
M. 1. 133. 14.
Long. corp. $2\frac{1}{4}$ lin. lat. 1 lin.
Hab. In Musæo Gul. Hooker.

13. grisea.
M. 1. 134. 15. Trans. Linn. Soc. 1. t. 5. f. 6-11.
Long. corp. 2 lin. lat. 1 lin.
Hab. in corvibus putridis.
The œconomy of this Insect is very elucidly treated of by Mr. Curtis in Linn. Trans. vol. 1. who discovered the Larvæ in Salix viminalis.

14. undata.
M. 1. 134. 16.
Long. corp. $1\frac{2}{3}$ lin. lat. $\frac{1}{4}$ lin.
Hab. Semel cepi.

15. æstiva.
M. 1. 135. 18.
Long. corp. $1\frac{1}{2}$. lat. $\frac{1}{4}$ lin.
Hab. in floribus. Semel cepi.

16. obsoleta.
M. 1. 135. 19.
Long. corp. 1½ lin. lat. ½ lin.
Hab. in Boleto imbricato. Jul.

17. 10-guttata.
M. 1. 135. 20.
Long. corp. 2 lin. lat. 1 lin.
Hab. In Museo Gul. Hooker.

18. fulva.
M. 1. 136. 21.
Long. corp. 2 lin. lat. 1¼ lin.
Hab. in Lycoperdo Bovistâ immaturo. Aug. f.
Infrequentissime hyemat in Bovistâ maturâ.

19. melanocephala.
M. 1. 136. 22.
Long. corp. 1 lin. lat. ⅓ lin.
Hab.

20. rufifrons.
M. 1. 136. 24. adde "Elytra macula humerali, et apice rubris."
P. 36. t. 19. macula humerali caret.
Long. corp. 1⅓ lin. lat. ½ lin.
Hab. in Boleto imbricato. Jul.
When the Elytron of this Insect is raised, the humeral spot is found to be only the base of an oblique fascia, which extends to the Apex. The real colour of the Elytron being fuscous, with a testaceous oblique band.

21. scanica. N. fusca, capite thorace elytrorum puncto baseos pedibusq; rufo-testaceis. B.
L. 2. 564. 26. Dermestes scanicus.
Fab. Ent. Syst. 2. 514. 14. Ips humeralis.

Fab. Eleut. 2. 583. 2. Engis humeralis.
P. 6. t. 9. Dermestes scanicus.
Long. corp. 1½ lin. lat. ½ lin.
Hab. Accepi a Dom. J. Hooker.

22. staphylinoides.
M. 1. 137. 25.
Long. corp. ¼ lin. lat. ⅛ lin.
Hab. Accepi a Dom. J. Hooker.

23. porcata.
M. 1. 137. 26.
Long. corp. 1 lin. lat. ¼ lin.
Hab. In Musæo Gul. J. Hooker.

24. nigrina.
M. 1. 138. 27.
Long. corp. 1 lin. lat. ½ lin.
Hab. In eodem Musæo.

13. BOLETARIA. BOLETUS BEETLE.

This genus inhabits the Boleti, principally those which grow attached to trees.

1. 4-pustulata.
M. 1. 138. 1. D. t. 185. f. 2. Chrysomela 4-pustulata.
Long. corp. 3 lin. lat. 1¼ lin.
Hab. in Boleto. Æstate.—Hyemat sub cortice.

2. rufa.
M. 1. 139. 2.
Long. corp. 2 lin. lat. ¼ lin.
Hab. in Boleto. Captus a Dom. T. Skrimshire.

3. multipunctata.
M. 1. 139. 3. P. 12. t. 11.
Long. corp. 2 lin. lat. ¼ lin.

Hab. in Boleto exsiccato. Jun. i.

4. varia.

M. 1. 140. 5.

Long. corp. 2 lin. lat. 1 lin.

Hab. in Boleto. Aprili.

5. bicolor.

M. 1. 141. 8. P. 9. t. 9. Ent. Brit. citavit errore t. 10.

Long. corp. 2 lin. lat. 1½ lin.

Hab. in Boleto. Maio.

14. OPATRUM.

1. sabulosum.

M. 1. 142. 1. P. 9. t. 2.

Long. corp. 3 lin. lat. 1½ lin.

Hab. in Arena. Apr. f.

2. tibiale.

M. 1. 142. 2. P. 43. t. 10.

Long. corp. 1½ lin. lat. ⅓ lin.

Hab. in collibus arenosis juxta mare, Cley. Apri. m.

15. CASSIDA. TORTOISE-SHELL BEETLE.

The Larvæ of the Cassida are found upon the plants, on which the perfect Insects are afterwards found. They frequently conceal themselves under their own excrement. The education is easy: as they never quit the plant whilst there is moisture in it; and therefore we need only place the part of the plant on which they are, in water, and rear them in our rooms.

1. viridis.
   M. 1. 143. 1. Mart. t. 11. Gen. 9. f. 2.
   Long. corp. 4 lin. lat. 2½ lin.
   Hab. in Menthâ. Aug.
2. similis.
   M. 1. 144. 2.
   Long. corp. 3 lin. lat. 2 lin.
   Hab. in Anthemide Cotulâ, Serratulâ Arvensi, &c. Aug.
3. Spergulæ.
   M. 1. 144. 3.
   Long. corp. 2 lin. lat. 1½ lin.
   Hab. in Pino Aug.
4. cruentata.
   M. 1. 145. 4. D. t. 63. f. 2. 3.
   Long. corp. 2 lin. lat. 1 lin.
   Hab. In Musæo D. T. Skrimshire.
5. liriophora.
   M. 1. 145. 5.
   Long. corp. 3 lin. lat. 2 lin.
   Hab. in serratula Arvensi, accepia D. Hooker.
6. nebulosa.
   M. 1. 145. 6.
   Long. corp. 3 lin. lat. 2 lin.
   Hab. in Melissa.
7. nobilis.
   M. 1. 146. 7. D. t. 138. f. 1. 2. 3.
   Long. corp. 2 lin. lat. ¼ lin.
   Hab. Semel captus in Typha minore. Aug. f.
   Corpus subtus nigrum, margine griseo.
8. splendidula.

M. 1. 147. 8.
Long. corp. 2¼ lin. lat. 1¼ lin.
Hab. Cepi semel eodem temporisloco cum priore.
Corpus subtus nigrum, margine viride.

9. maculata.
M. 1. 147. 9.
Long. corp. 3½ lin. lat. 2⅝ lin.
Hab. in Irulæ dysentericæ foliis.
Var. ætate provectiore.
M. 1. 147. 10. Cassida Murræa.

10. ferruginea.
M. 1. 148. 10.
Long. corp. 3. lin. lat. 1½ lin.
Hab.

16. COCCINELLA. LADY-BIRD.

The Larvæ live on aphides or plant-lice. The perfect Insects are found on a great variety of plants: in giving the Habitats of any particular species, I have chosen that plant on which I have most frequently found it.

*Coleoptris rubris flavisve: punctis nigris.

1. margine-punctata.
M. 1. 150. 4.
Long. corp. 2 lin. lat. 1¼ lin.
Hab. Accepi a Dom. J. Hooker.

2. 2-punctata.
M. 1. 150. 5. Mart. t. 13. f. 17.
Long. corp. 2¼ lat. 1½ lin.
Hab. in Quercu. Maio. In ejusdem accifoliis hybernat.

3. 4-punctata.
   M. 1. 151. 7.
   Long. corp. 2½ lin. lat. 1½ lin.
   Hab. Non frequentissime.
4. 5-punctata.
   M. 1. 151. 8. Mart. t. 13. f. 26.
   Long. corp. 2¼ lin. lat. 1½ lin.
   Hab. in Quercu. Jun.
5. 7-punctata.
   M. 1. 152. 10. D. t. 39. f. 5. Mart. t. 12. f. 6.
   Long. corp. 3½ lin. lat. 2 lin.
   Hab. ubique. Maio & seq.
6. 7-notata. Seven dot red Lady-bird.
   M. 1. 153. 11.
   Don. t. 362. f. 3. non est, quia errore habet duas maculas ad elytrorum basin, quibus 9-punctata fit: tamen ejus descriptio ad hunc insectum pertinet.
   Long. corp. 2 lin. lat. 1 lin.
   Hab. in Polygono Fagopyro. Aug.
7. lineolata.
   M. 1. 153. 12.
   Long. corp. 2½ lin. lat. 1 lin.
   Hab. in Hyperico perfoliato, et Betula. Sept. i.
8. 8-punctata.
   M. 1. 153. 13. Mart. t. 13. f. 19.
   Long. corp. 2¼ lin. lat. 1 lin.
   Hab.
9. 9-punctata.
   M. 1. 154. 14. D. t. 362. f. 3. Coccinella 7 notata (Antennis erroneis), sed non descriptio, quæ pertinet ad 7-notatam veram.

Long. corp. 2¼ lin. lat. 1 lin.
Hab. in Polygono Fagopyro. Aug.

10. 10-punctata.
M. 1. 154. 15.
Long. corp. 2½ lin. lat. 1¼ lin.
Hab. in Quercûs foliis. Aug.

11. 11-punctata.
M. 1. 155. 16.
Long. corp. 2½ lin. lat. 1¼ lin.
Hab. in Graminibus. Jun.

12. 11-notata.
M. 1. 155. 17.
Long. corp. 2 lin. lat. 1¼ lin.
Hab. Jul.

13. 12-punctata.
M. 1. 155. 18.
Long. corp. 1⅓ lin. lat. vix 1 lin.
Hab. in Sepibus Ulmi. Jun. i.
Var. Caput punctis nigris duobus et thoracis maculæ in puncta 4 divisæ.

14. 13-punctata—13-dot Lady-bird.
M. 1. 156. 19. D. t. 362. f. 2. Antennis erroneis.
Long. corp. 2½ lin. lat. 1¾ lin.
Hab.

15. 13-maculata—13-spot Lady-bird.
M. 1. 157. 20. D. t. 428. Mart. t. 13. f. 12.
Long. corp. 2½ lin. lat. 1¾ lin.
Hab. in Quercu; toto anno.

16. 14-punctata.
M. 1. 157. 21. Mart. t. 13. f. 1. mala.
Long. corp. 2 lin. lat. 1¼ lin.
Hab.

17. 14-maculata.
M. 1. 157. 22.
Long. corp. 2 lin. lat. 1¼ lin.
Hab.

18. 19-punctata.
M. 1. 158. 23.
Long. corp. 1⅔ lin. lat. 1 lin.
Hab.

19. 20-punctata.
M. 1. 158. 24.
Long. corp. 2 lin. lat. 1¼ lin.
Hab. in Quercu, Cratægo, &c. Æstate toto.
Hyemat in siccifoliis.

20. 22-punctata.—22-dot Lady-bird.
M. 1. 158. 25. Mart. t. 13. f. 14. D. t. 39. f. 1.
Long. corp. 1½ lin. lat. 1 lin.
Hab. in Quercu, et sepibus.
Mera varietas præcedentis?

21. 24-punctata.—24-dot Lady-bird.
M. 1. 159. 26. D. t. 362. f. 4. 5. sed errore gerit Chrysomelæ antennis.
Long. corp. 1½ lin. lat. 1 lin.
Hab. in floribus. Jul.

** Coleoptris rubris flavisve: albo-maculatis.

22. 10-guttata—10-spotted Lady-bird.
M. 1. 161. 30. D. t. 243. f. 1.
Long. corp. 2 lin. lat. 1⅛ lin.
Hab. in Quercu foliis.
Forsan mera varietas 10-pustulatæ.

23. 14-guttata.
M. 1. 161. 31. Mart. t. 13. f. 28.

Long. corp. 2¼ lin. lat. 1¼ lin.
Hab. In Musæo Amici J. Hooker.

24. 16-guttata.
M. 1. 161. 32. Mart. t. 13. f. 27.
Long. corp. 3 lin. lat. 2 lin.
Hab. Capta a Domina Hennant in gramine.

25. 18-guttata.
M. 1. 162. 33.
Long. corp. 2 lin. lat. 1⅛ lin.
Hab. in Pinu. Maio. Hyemat sub cortice.

*** Coleoptris nigris: rubro-maculatis.

26. 4-verrucata.
M. 1. 163. 35. D. t. 243. f. 3. Cor. cassidoides.
Long. corp. 1¼ lin. lat. 1 lin.
Hab. in Ulicibus. Maii. i.

27. Cacti.
M. 1. 163. 36.
Long. corp. 2 lin. lat. 1½ lin.
Hab. Accepi a D. Hooker.

28. bipustulata. 2-pustuled Lady-cow.
M. 1. 164. 37. Mart. t. 13. f. 21.
Long. corp. 1¼ lin. lat. 1 lin.
Hab. in gramine juxta aquas. Maio.

29. 4-pustulata.
M. 1. 164. 38.
Long. corp. 2¼ lin. lat.
Hab. In Musæis D. Hooker.

30. 6-pustulata. 6-pustuled Lady-Cow.
M. 1. 165. 39.
Long. corp. $2\frac{1}{2}$ lin. lat.
Hab.

31. 10-pustulata. 10-pustuled Lady-Cow.
M. 1. 165. 41. Mart. t. 12. f. 1. mala.
Long. corp. 2 lin. lat. $1\frac{1}{2}$ lin.
Hab. in Quercu. Jul.
Hyemat in siccifoliis.

32. bimaculata.
M. 1. 166. 42.
Long. corp. $1\frac{1}{4}$ lin. lat. $\frac{7}{8}$ lin.
Hab. In Mus. Dom. J. Hooker.

33. fulvifrons.
M. 1. 168. 48.
Long. corp. $\frac{1}{4}$ lin. & lat. fere æquat.
Hab. Captusa Reverendo T. Skrimshire.

34. hæmorrhoidalis.
M. 1. 168. 49.
Long. corp. $\frac{7}{8}$ lin. lat. $\frac{6}{8}$ lin.
Hab. Cepi semel in Carduo nutante.

**** Coleoptris nigris albo flavoque maculatis.

35. lunularis.
M. 1. 168. 50.
Long. corp. 2 lin. lat. $1\frac{1}{4}$ lin.
Hab. in Ulicibus. Maio et seq.
Var. multo frequentior, maculâ lunari flavâ et nullo puncto minutissimo.

17. CHRYSOMELA. GOLDEN BEETLE.

The Larvæ of this Genus, as far as they are known to me, live on the leaves of plants; devouring the pulp, but rejecting the fibres.

The perfect Insects of the first and second divisions are slow in motion. Those of the third are Saltatoriæ or Leapers; skipping away from the approach of the collector.

They are very frequently to be taken in copulation; hence we have more accurate knowledge of the sexes, than we possess in many other Genera.

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* Thorace margine plano.

1. tenebricosa.
   M. 1. 169. 1. D. t. 276.
   Long. corp. maris 6 lin. lat. 4 lin.
   ———— fœm. 8 lin. lat. 5 lin.
   Hab. in Ripis. Larva sæpe in Arum maculatum.
2. coriaria.
   M. 1. 170. 2.
   Long. corp. maris $3\frac{1}{2}$ lin. lat. $2\frac{1}{4}$ lin.
   ———— fœm. 4 lin. lat. $2\frac{1}{2}$ lin.
   Hab. in Ericetis. Febr. et sequente.
3. iopa.
   M. 1. 170. 3.
   Long. corp. $4\frac{1}{2}$ lin. lat. $2\frac{1}{4}$ lin.
   Hab. In Musæo Dom. Wilkin.
   Confiteo ut hæc species mihi videtur mera varietas prioris.
4. gœttingensis.

M. 1. 171. 4. D. t. 286. f. 2.
Certe non L. 2. 586. 4. quæ atra, et cujus Specimen in Linn: Musæo est.
Long. corp. maris 3½ lin. lat. 2¼ lin.
——— fœm. 4½ lin. lat. 3 lin.
Hab. in Cratægi sepibus. Jun.
Jacobo Edwardo Smith, M. D.—F. R. S.—P. L. S.—pro inspectione Coleopterorum in Linnæano Musæo gratias maximas ago.

5. hæmoptera.
M. 1. 171. 5. Mart. t. 15. f. 22.
Long. corp. maris 3 lin. lat. 2 lin.
——— fœm. 3½ lin. lat 2¼ lin.
Hab. in ericetii. Autumno.

6. Graminis.
M. 1. 172. 6. D. t. 365. f. 1.
Long. corp. maris 4 lin. lat. 2½ lin.
——— fœm. 4½ lin. lat. 3 lin.
Hab. in Mentha et aliis plantis juxta aquas. Jul.

7. Hyperici.
M. 1. 173. 8. Mart. t. 14. f. 9.
Long. corp. fœm. 3 lin. lat. 2 lin. Mas paulo minor.
Hab. in Hyperico perfoliato. Jul.

8. Quinquejugis.
M. 1. 173. 9.
Long. corp. et lat. eadem cum Chrysomela Hyperici.
Hab. cum priore.

9. Marshami.
M. 1. 173. 10. D. t. 286. f. 1.
Long. corp. 2½ lin lat. 1¼.

Hab. in Hyperico perfoliato. Jul.

10. fastuosa.

M. 1. 174. 11. D. t. 194.

Long. corp. $2\frac{1}{2}$ lin. lat. $1\frac{1}{2}$ lin.

Hab. in Lamio albo, Urtice. Jun.

11. Tanaceti.

M. 1. 177. 17. Mart. t. 16. f. 31.

Long. corp. maris 3 lin. lat. 2 lin.

——— fœm. 5 lin. lat. $2\frac{1}{2}$ lin.

Hab. In Hordei Culmos cepi.

12. halensis.

M. 1. 177. 18. Mart. t. 15. f. 20.

Long. corp. fœm. 3 lin. lat. $1\frac{1}{2}$ lin. Mas paulo minor.

Hab. in Ulicibus frequens. Jul. f.

13. Polygoni.

M. 1. 178. 19. D. t. 96. f. 1.

Long. corp. 2 lin. lat. $1\frac{1}{2}$ lin.

Hab. in Polygono aviculari. Jun. i.

14. Betulæ.

M. 1. 178. 20.

Long. corp. fœm. $1\frac{1}{2}$ lin. lat. 1 lin. Mas paulo.

Hab. in Betula.

15. Armoraciæ.

M. 1. 179. 21.

Long. corp. $1\frac{1}{4}$ lin. lat. 1 lin.

Hab. in Plantis aquaticis. Jun. In Musæis D. Hooker.

16. vulgatissima.

M. 1. 179. 22. Mart. t. 14. f. 8.

Long. corp. $2\frac{1}{2}$ lin. lat. 1 lin.

Hab. in In Musæis D. Hooker.

17. Vitellinæ.
M. 1. 180. 23. Mart. t. 14. f. 1.
Long. corp. 2¼ lin. lat. 1 lin.
Hab. in Populo. Sept. i.

18. aucta.
M. 1. 181. 24. D. t. 373. f. 2.
Long. corp. 1½ lin. lat. ¼ lin.
Hab. non frequens.

19. marginella.
M. 1. 181. 25. Mart. t. 15. f. 26.
Long. corp. 2 lin. lat. ⅓ lin. Jun. i.
Hab. in floribus Ranunculi acris et repentis. Jun. m.

20. olivacea.
M. 1. 181. 26.
Long. corp. 2 lin. lat. 1⅓ lin.
Hab. in Spartio Scopario. Aug. f.
Nimis affinis ad varietatum sequentis in quâlitura deest.

21. Litura.
M. 1. 182. 27. Mart. t. 16. f. 37.
Long. corp. 1¾ lin. lat. 1 lin.
Hab. in Spartio Scopario. Aug. f.

22. viridiænea.
M. 1. 184. 33.
Long. corp. 2½ lin. lat. 1¼ lin.
Hab. in Veronica Beccabunga. Jun. i.

23. Hypochæridis.
M. 1. 184. 35. D. t. 373. f. 3.
Long. corp. 2 lin. lat. 1½ lin.
Hab. in Veronica Beccabunga. Jun. i.

24. Phellandrii.

M. 1. 185. 38. Mart. t. 17. f. 48. malè colorata.
Long. corp. 3 lin. lat. 1 lin.
Hab. in Phellandrio aquatico. Æstate toto.

25. Beccabungæ.
M. 1. 186. 39. P. 25. t. 11.
Long. corp. 2 lin. lat. ¼ lin.
Hab. in Veronica Beccabunga. Jun. i.

** Thorace margine utroque incrassato.

26. incrassata.
M. 1. 186. 40.
Long. corp. 3½ lin. lat. 2 lin.
Hab. Semel cepi in ripâ apricâ.

27. staphylea.
M. 1. 187. 41. Mart. t. 14. f. 3.
Long. corp. maris 3 lin. lat. 2 lin.
——— fœm. 3½ lin. lat. 2⅛ lin.
Hab. in Crætagi sepibus. Maia. f.

28. polita.
M. 1. 188. 43. Mart. t. 14. f. 5.
Long. corp. maris 2¼ lin. lat. 2 lin.
——— fœm. 3½ lin. lat 2⅛ lin.
Hab. in paludosis. Jun.

29. Populi.
M. 1. 188. 34. Mart. t. 15. f. 18, 19.
Long. corp. 4 lin. lat. 3 lin. Mas. vix minor.
Hab. in Populo, præsertim in humidis. Jul.

30. Tremulæ.
M. 1. 189. 45.
Long. corp. 3¼ lin. lat. 2½ lin.

Hab. in Populo cum priore infrequentissime. Jul.

I strongly suspect this to be only a variety of Chrys. Populi; for in some specimens of Populi the macula apicis is so minute, as to be almost imperceptible, when the elytra are in the slightest manner expanded. I do not recollect ever taking this in copulation: Populi I have once or twice, and the size of the sexes seemed much nearer equal, than that of the two supposed species.

31. sanguinolenta.

M. 1. 190. 48. D. t. 111. f. 3, 4.
Long. corp. 4 lin. lat. 2¼ lin.
Hab. in Cratægi sepibus. Maii. f.

*** Saltatoriæ, femoribus posticis crassissimis.

In this family the male sex is most frequently a slight degree smaller than the female. As however the measure varies only the fraction of a line, I have here given only that of the female, when both sexes are known to me.

32. oleracea.

M. 1. 192. 52. P. 21. t. 1. Altica oleracea.
Long. corp. 2 lin. lat. 1 lin.
Hab.

33. Erucæ.

M. 1. 193. 53. P. 21. t. 2.
Long. corp. 2¼ lin. lat. 1⅛ lin.
Hab.

34. Hyoscyami.

M. 1. 193. 55. Mart. t. 14. f. 15.
Long. corp. 1¼ lin. lat. ¼ lin.
Hab. in Hyoscyamo nigro. Jul.

35. Modeeri.
M. 1. 194. 56. P. 21. t. 7. Altica Modeeri.
Long. corp. 1 lin. lat. ½ lin.
Hab. in humidis pratis. Jul. f.

36. semi-ænea.
M. 1. 194. 57.
Long. corp. 1 lin. lat. ½ lin.
Hab. In Musæo D. T. Skrimshire.

37. Helxines.
M. 1. 194. 58. P. 21. t. 6. Altica Helxines.
Long. corp. 1½ lin. lat. ½ lin.
Hab. In Musæo D. Gul. Hooker.

38. aurata.
M. 1. 195. 59.
Long. corp. 1⅔ lin. lat. ½ lin.
Hab. in salicibus. Aug.

39. nitidula.
M. 1. 195. 60. D. t. 273.
Long. corp. 1½ lin. lat. ⅝ lin.
Hab. in salicibus. Jul.

40. concinna.
M. 1. 196. 61.
Long. corp. 1 lin. lat. ½ lin.
Hab. Jun. f.

41. cyanea.
M. 1. 196. 62.
Long. corp. 1¼ lin. lat. ¼ lin.
Hab. in Erysimo Barbaria. Mart. f.

42. Pseudacori.

M. 1. 196. 63.
Long. corp. 1½ lin. lat. 1 lin.
Hab. in Iride Pseudacoro. Jun. 1.

43. nigro-ænea.
M. 1. 197. 64.
Long. corp. 1¼ lin. lat. ⅓ lin.
Hab. In Musæo Dom. J. Hooker.

44. Nemorum.
M. 1. 197. 65. P. 21. t. 19. Altica Nemorum.
Long. corp. 1 lin. lat. ½ lin.
Hab. in Cardamine, et ubique per totam æstatem.

45. flexuosa.
M. 1. 198. 66. P. 25. t. 12. Altica flexuosa.
Long. corp. 1 lin. lat. ½ lin.
Hab. in Erysimo Alliaria. Maio.

46. 4-pustulata.
M. 1. 198. 67.
Long. corp. 1 lin. lat. ½ lin.
Hab. cum priore.

47. ruficornis.
M. 1. 199. 70. D. t. 365. 3.
Long. corp. 1½ lin. lat. ¼ lin.
Hab. Cepi semel in Boleto.

48. hæmispherica.
M. 1. 199. 71.
Long. corp. 1½ lin. lat. 1 lin.
Hab. In Musæo Dom. W. J. Hooker.

49. orbiculata.
M. 1. 200. 72.
Long. corp. 1¼ lin. lat. 1 lin.
Hab. In Mus. Dom. Hooker et Wilkin.

50. punctulata.
M. 1. 200. 73.
Long. corp. $\frac{1}{4}$ lin. lat. $\frac{1}{8}$ lin.
Hab. In Musæis D. Hooker.

51. atricilla.
M. 1. 200. 74.
Long. corp. 1 lin. lat. $\frac{1}{2}$ lin.
Hab. Infrequentissime sepi. Jul. i.

52. femoralis.
M. 1. 201. 76.
Long. corp. 1 lin. lat. $\frac{1}{2}$ lin.
Hab. in Echio in cretaceis. Jul. i.

53. Verbasci.
M. 1. 202. 78. P. 21. t. 17. Altica Verbasci.
Long. corp. $1\frac{1}{2}$ lin. lat. $\frac{1}{4}$ lin.
Hab. in foliis Verbasci nigri. Aug. i.

54. Thapsi.
M. 1. 202. 79.
Long. corp. 2 lin. lat. $\frac{7}{8}$ lin.
Hab. in Verbasci Thapsi foliis. Sept. i.

55. testacea.
M. 1. 202. 81. P. 21. t. 13. Altica testacea.
Long. corp. $1\frac{7}{8}$ lin. lat. $1\frac{1}{4}$ lin.
Hab. in Carduis. Jun.

56. tabida.
M. 1. 203. 82. P. 21. t. 15. Altica tabida.
Long. corp. $1\frac{1}{2}$ lin. lat. $\frac{3}{4}$ lin.
Hab. Jul. f.

57. transversa.
M. 1. 203. 83. P. 21. t. 14. Altica exoleta.
Long. corp. 2 lin. lat. $\frac{7}{8}$ lin.

Hab. in paludosis. Jul. Aug.

58. Euphorbiæ.
M. 1. 204. 84.
Long. corp. 1 lin. lat. $\frac{1}{2}$ lin.
Hab. In Mus. D. Hooker.

59. nodicornis.
M. 1. 204. 86.
Long. corp. $1\frac{1}{4}$ lin. lat. $\frac{1}{2}$ lin.
Hab. in Reseda lutea. Maii. f.

60. Cynoglossi.
M. 1. 205. 88.
Long. corp. $1\frac{1}{4}$ lin. lat. $\frac{1}{4}$ lin.
Hab. in Cynoglosso officinali. Aug.

61. striatula.
M. 1. 205. 90.
Long. corp. $\frac{1}{8}$ lat. via $\frac{1}{8}$ lin.
Hab. In Musæo Dom. J. Hooker.

62. nigricollis.
M. 1. 205. 91.
Long. corp. 2 lin. lat. 1 lin.
Hab. In Mus. Dom. Gul. J. Hooker.

63. picina.
M. 1. 206. 92.
Long. corp. $\frac{1}{4}$ lin. lat. $\frac{1}{8}$ lin.
Hab. In Mus. Dom. Wilkin.

64. holsatica. Chr. nigra, nitida, elitris apice puncto rubro.
L. 595. 67. Faun. suec. 544.
F. Eleut. 1. 467. 85. Crioreris.
Payk. 2. 99. 18. Galeruca holsatica.
Long. corp. 1 lin. lat. $\frac{1}{2}$ lin.

Hab. in Pediculari palustri. Jun. i.

65. Anchusæ. Chr. nigra, antennarum basi pedibusque anticis pallidis.
Payk. 2. 101. 21. Galeruca Anchusæ.
Long. corp.
Hab. In Mus. Dom. Gul. J. Hooker.

66. affinis. Chr. livida ferruginea, thorace lævi, pectore abdomineque nigris.
Payk. 2. 109. 31.
P. 178. 14. Altica atricilla.
Long. corp. vix. 1 lin. lat. $\frac{1}{2}$ lin.
Hab. In eodem Musæo.

67. Brassicæ, Chr. atra, elytris pallide testaceis, margine omni fasciaque media atris.
F. Eleut. 1. 468. 90.
Long. corp. $1\frac{1}{6}$ lin. lat. $\frac{1}{2}$ lin.
Hab. In eodem Musæo.

18. CRYPTOCEPHALUS.

The Larvæ are unknown to me. The species appear to be very local; but when met with, are frequently taken in statu cop.

The male is generally of smaller size than the female: I have given only the measure of the latter.

1. Lineola.
M. 1. 207. 3. D. t. 99. f. 1. 2. 3.
Long. corp. $2\frac{1}{2}$ lin. lat. $1\frac{1}{4}$ lin.
Hab. in Betula alba. Non infrequenter in Sylvâ, Edgefield-wood. Jun.

2. Coryli.

M. 1. 208. 4. D. t. 321. f. 1. 2. Figuram maris pictor male colaravit: thorace rubro errat.

Long. corp. 2½ lin. lat. 1¼ lin.

Hab. in Corylo infrequentissime, in eadem sylva.

3. sericeus.

M. 1. 209. 6. D. t. 321. f. 2.

Long. corp. 3¼ lin. lat. 1½ lin.

Hab. in floribus Hieracii, non frequens. Jul. i.

4. pusillus.

M. 1. 210. 9.

Long. corp. 1 lin. lat. ½ lin.

Hab. in Betula alba, ad Felbrig, Norf.

5. marginellus.

M. 1. 211. 10. D. t. 335.

Long. corp. 1 lin. lat. ½ lin.

Hab. in. Quercu.

6. labiatus.

M. 1. 211. 11. P. 68. t. 9.

Long. corp. 1¼ lin. lat. ½ lin.

Hab. in Quercu.

7. Barbareæ.

M. 1. 212. 13.

Long. corp.

Hab. In Musæo Dom. Gul. J. Hooker.

8. Moræi.

M. 1. 212. 14. P. 68. t. 11.

Long. corp. 2½ lin. lat. 1 lin.

Hab. in pontis, et in graminosis locis in Sylvis. Jun. f.

19. AUCHENIA.

1. Asparagi.

   M. 1. 214. 3. D. t. 28. Chrys. Asparagi.
   Long. corp. 2¼ lin. lat. 1¼ lin.
   Hab. Larva et Imago in Asparago. Jun. f.

2. cyanella.

   M. 1. 215. 4. Mart. t. 15. f. 25. Chrys. cyanella.
   Long. corp. 2 lin. lat. 1 lin.
   Hab. in foliis Quercus.

3. melanopa.

   M. 1. 215. 5. Mart. t. 17. f. 53. Chrys. melanope.
   Long. corp. 2¼ lin. lat. 1 lin.
   Hab. in Quercu, Betula. Jul.

4. flavipes.

   M. 1. 216. 6. P. 32. t. 4. Crioceris flavipes.
   Long. corp. ¼ lin. lat. ¼ lin.
   Hab. in Quercus foliis. Jul.

5. subspinosa.

   M. 1. 216. 7.
   Long. corp. 1½ lin. lat. ½ lin.
   Hab. in Betula alba. Jun. i.

6. rufipes.

   M. 1. 217. 9. P. 32. t. 5. Crioceris rufipes
   Long. corp. 2 lin. lat. ⅛ lin.
   Hab. in Salicibus.

7. hirta.

   M. 1. 218. 10. Mart. t. 17. f. 55. Chrys. hirta.
   Long. corp. 3⅛ lin. lat. 1⅓ lin.
   Hab. in Sepibus. Cratægo.

20. CRIOCERIS.

1. sulphurea.

M. 1. 219. 1. Mart. t. 17. f. 44. Chrys. sulphurea.

Long. corp. 4½ lin. lat. 1½ lin.

Hab. in floribus Dauci, Carrotæ, &c. Jun. f.

2. cervina.

M. 1. 220. 2. D. t. 78. f. 4. Chrys. cervina.

Long. corp. 5 lin. lat. 2 lin.

Hab. in aquaticis. Jun. f.

3. cinerea.

M. 1. 220. 3. D. t. 78. f. 3. Chrys. cervina.

Long. corp. 5 lin. lat. 2 lin.

Hab. cum priore.

I have once taken this in cop. with cervina; but as it was the only time I ever saw either cervina or cinerea in that state, I cannot decide upon Mr. Marsham's question. "An Sexus Differentia?"

4. caraboides.

M. 1. 221. 4. Mart. t. 17. f. 57. Chrysomela caraboides.

By a mistake of the press, the reference in Ent. Brit. to Mart. is to f. 58.

Long. corp. 7 lin. lat. 2½ lin. Mas minor.

Hab. sub cortice Fraxini. Jul.

5. murina.

M. 1. 222. 7. Mart. t. 16. f. 32. Chrys. murina.

Long. corp. 3 lin. lat. 1 lin.

Hab. in Senecione Jacobæa. Jun.

6. fusca.

M. 1. 223. 8.
Long. corp. 2½ lin. lat. 1 lin.
Hab. cum priore.

7. castanea.
M. 1. 223. 9.
Long. corp. 5 lin. lat. 1½ lin.
Hab. in Cratægo Oxyacanthæ. Jun.

8. erythropa.
M. 1. 223. 10.
Long. corp. 5 lin. lat. 1½ lin.
Hab. in Semel cepi in Pinu. Aug.

9. Nymphææ.
M. 1. 224. 12. Mart. t. 17. f. 46. Chrys. Nymphææ.
Long. corp. 3 lin. lat. 1½ lin.
Hab. in aquaticis. Jun.

10. Caprææ.
M. 1. 225. 14. Mart. t. 17. f. 45. Chrys. Caprææ.
Long. corp. 2½ lin. lat. 1 lin.
Hab. in Alno. Aug. f.

11. mollis.
M. 1. 225. 15.
Long. corp.
Hab. In Musæis D. Hooker.

12. nigricans.
M. 1. 226. 17.
Long. corp. 1½ lin. lat. ⅓ lin.
Hab. In eodem Musæis.

13. concolor.
M. 1. 226. 19.

Long. corp. $1\frac{1}{2}$ lin. lat. $\frac{1}{4}$ lin.
Hab. in Pratis. Jun.

14. pallida.
M. 1. 227. 20. P. 8 t. 7. Cistela pallida.
Long. corp. 2 lin. lat. 1 lin.
Hab. in graminibus ad fluviorum ripus. Jun. i.

15. calmariensis.
M. 1. 227. 21.
Long. corp. 2 lin. lat. 1 lin.
Hab. in plantis aquaticis. Jun. i.

16 circumfusa.
M. 1. 227. 22.
Long. corp. $1\frac{1}{4}$ lin. lat.
Hab. In Mus. Gul. J. Hooker.

17. Cratægi.
M. 1. 228. 23. Mart. t. 14. f. 4. Chrys. Cratægi.
Long. corp. 2 lin. lat. 1 lin.
Hab. in Cratægo Oxyacanthâ.
Maculæ lineares sæpe evanescentes.

18. ptinoides.
M. 1. 228. 25.
Long. corp. $1\frac{1}{2}$ lin. lat. $\frac{1}{2}$ lin.
Hab. In Musæo D. J. Hooker.

19. tenella. Crioc. ferruginea, elytris margine thoraceque flavis.
M. 1. 219. 12. Auchenia tenella.
Long. corp. $2\frac{1}{2}$. lat. 1 lin.
Hab. in Betula. Jul.

20. lineola. Crioc. nigra, thorace sanguineo, lineola dorsali nigra: elytris pallidis.

F. Eleut. 1. 462. 62. P. 34. t. 5.
Long. corp. 2 lin. lat. 1 lin.
Hab. in plantis aquaticis.

21. TILLUS.

1. virens.
M. 1. 230. 3.
Long. corp. 1¼ lin. lat. ½ lin.
Hab. in Urticis. Jun. i.

22. HISPA.

1. mutica.
M. 1. 232. 2. P. 1. t. 8. Ptilinus muticus.
Long. corp. 1¼ lin. lat. ⅓ lin.
Hab. Captus a Dom. J. Hooker, ad radices Lichenis canini.

23. SCAPHIDIUM.

1. 4-maculatum.
M. 1. 232. 2. P. 2. t. 1.
Long. corp. 2⅛ lin. lat. 1½ lin.
Hab. Sub cortice. Captus a Dom. J. Hooker.
2. acuminatum.
M. 1. 234. 3.
Long. corp. 1 lin. lat. ¼ lin.
Hab. In Boleto. Captus ab eodem.

24. BRUCHUS. SEED BEETLE.

The Larvæ live on the seeds of plants, and the perfect Insect is found in the blossoms of broom, pea, &c.

1. scabrosus.
   M. 1. 235. 1. P. 15. t. 15. Anthribus scabrosus.
   Long. corp. 2 lin. lat. $1\frac{1}{8}$ lin.
   Hab. In Musæis Dom. Hooker.
2. granarius.
   M. 1. 235. 2. P. 61. t. 8.
   Long. corp. $1\frac{1}{2}$ lin. lat. 1 lin.
   Hab. in Spartii floribus. Jun. m.
3. ater.
   M. 1. 235. 4.
   Long. corp. $1\frac{1}{2}$ lin. lat. $\frac{2}{3}$ lin.
   Hab. in Spartii floribus copiose. Jun.

25. CURCULIO. WEEVIL.

This Genus deposits its eggs in very different situations; we meet with the Larvæ of one species in the acorn, another in the nut; while others destroy the corn in our granaries, and others are found in the flowering heads of trefoil, or lodged in the stalk of plants, and many species feed on the leaves.

A. Longirostres.

a. Antennis integris, femoribus simplicibus.

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* Abdomine ovato obtuso, rostri apice dilatato, thorace utrinque attenuato. Villosuli, paucis exceptis.

1. æquatus.
   M. 1. 238. 1. D. t. 121. f. 1. 2.
   Long. corp. $2\frac{1}{2}$ lin. lat. $\frac{1}{4}$ lin.

Hab. in Cratægo oxyacantha. Maio.

2. Alliariæ.
M. 1. 238. 2.
Long. corp. 2 lin. lat. ½ lin.
Hab. in Cratægo oxyacantha. Jun. i.

3. nanus.
M. 1. 238. 3.
Long. corp. 1½ lin. lat. ½ lin.
Hab. in Cratægo oxyacantha. Jun.

4. cupreus.
M. 1. 239. 4. P. 20. t. 9. Attelabus cupreus,
Long. corp. 2¼ lin. lat. ¼ lin.
Hab. In Musæis D. Hooker.

5. æneo-virens.
M. 1. 239. 5.
Long. corp. 1½ lin. lat. ½ lin.
Hab. in Betulâ albâ. Maio. f.

6. pubescens.
M. 1. 240. 7.
Long. corp. 3½ lin. lat. 1⅛ lin.
Hab. in Quercu. Maio.

7. Betulæ.
M. 1. 241. 8. D. t. 74. var. viridis.
Long. corp. 3½ lin. lat. 1¼ lin.
Hab. in Corylo. Jul.

8. Populi.
M. 1. 241. 9. P. 20. t. 7. Attelabus Populi.
Long. corp. 2 lin. lat. 1 lin.
Hab. In Musæo D. Hooker.

9. nitens.
M. 1. 242. 10. D. t. 74. var. violacea.

Long. corp. 3¼ lin. lat. 1¼ lin.
Hab. in Betula alba. Jul. m.

** Abdomine ovato acuto, rostro filiformi, thorace teretiusculo. Nudiusculi.

10. frumentarius.
M. 1. 242. 11. P. 20. t. 14. Attelabus frumentarius.
Long. corp. 2 lin. lat. ½ lin.
Hab. in sepibus.

11. chalceus.
M. 1. 243. 12.
Long. corp. 1½ lin. lat. ½ lin.
Hab. in Betula alba. Jul.

12. ænens.
M. 1. 243. 12. P. 20. t. 10. Attelabus Craccæ.
Long. corp. 1¼ lin. lat. ½ lin.
Hab. in Betula alba. Jun. i.

13. aterrimus.
M. 1. 244. 14.
Long. corp. 2 lin. lat. ⅔ lin.
Hab. In Mus. Dom. J. Hooker.

14. Sorbi.
M. 1. 244. 15. P. 20. t. 11. Attelabus Sorbi.
Long. corp. 1½ lin. lat. ⅝ lin.
Hab. In Musæo D. J. Hooker.

15. Craccæ.
M. 1. 245. 18.
Long. corp. 1 lin. lat. ½ lin.
Hab. in Vicia Cracca. Sept. m.

Larva in Seminibus. Sept. i.

16. rufirostris.
M. 1. 246. 19.
Long. corp. 1½ lin. lat. ½ lin.
Hab. Semel cepi.

17. Trifolii.
M. 1. 246. 22. Trans. Linn. Soc. vi. t. 5. f. a. c.
Long. corp. 1½ lin. lat. ¾ lin.
Hab. in Trifolio. Larva in Seminibus. Maio.

18. Malvæ.
M. 1. 246. 23.
Long. corp. 1 lin. lat. ¼ lin.
Hab. in Malvæ sylvestris floribus, frequentissime, Jul. i.

19. concinnus.
M. 1. 248. 26.
Long. corp. 1 lin. lat.
Hab. In Mus. D. J. Hooker.

20. melanopus.
M. 1. 248. 27.
Long. corp. 2 lin. lat. ½ lin.
Hab. In Mus. Dom. J. Hooker.

21. striatus.
M. 1. 249. 30.
Long. corp. 1¼ lin. lat. ½ lin.
Hab. In Musæo eodem.

22. viridescens.
M. 1. 249. 31.
Long. corp. 2 lin. lat. ¼ lin.
Hab. In Mus. D. J. Hooker.

b. Antennis fractis, femoribus simplicibus.

* Corpore ovato rostro pectori intra pedes sese applicante, sive pectus premente.

23. contractus.
M. 1. 250. 36.
Long. corp. 1 lin. lat. $\frac{1}{3}$ lin.
Hab.

24. melanorhynchus.
M. 1. 251. 37.
Long. corp. $1\frac{1}{4}$ lin. lat. $\frac{1}{2}$ lin.
Hab. Maio.

25. Salacariæ.
M. 1. 251. 40. P. 17. t. 4.
Long. corp. 1 lin. lat. $\frac{1}{3}$ lin.
Hab. in Lythri Salicariæ floribus. Aug. i.

26. Lythri.
M. 1. 252. 41. P. 17. t. 8.
Long. corp. $1\frac{1}{4}$ lin. lat. $\frac{1}{2}$ lin.
Hab. cum priore.

27. inflexus.
M. 1. 253. 43.
Long. corp. $\frac{1}{4}$ lin. lat. $\frac{1}{2}$ lin.
Hab. In Mus. Dom. J. Hooker.

28. leucogaster.
M. 1. 253. 45.
Long. corp. $1\frac{1}{2}$ lin. lat. $\frac{1}{3}$ lin.
Hab. In Musæis D. Hooker.

29. Sisymbrii.
M. 1. 253. 46.
Long. corp. 2 lin. (rostro producto) lat. $\frac{1}{3}$ lin.
Hab. in Plantis aquaticis. Jul.

30. Lapathi.
M. 1. 254. 47. Trans. Linn. 1. t. 5. f. 1—5.
D. t. 205. f. 1.
Long. corp. 5 lin. lat. 2 lin.
Hab. in Salicibus. Jul. i.

31. Equiseti.
M. 1. 254. 48.
Long. corp. 4 lin. lat. 1½ lin.
Hab. In Musæis D. Hooker.

32. obstrictus.
M. 1. 255. 50.
Long. corp. 2 lin. lat. ½ lin.
Hab. in graminibus. Jun. f.

33. leucostigma.
M. 1. 255. 51.
Long. corp. 1½ lin. lat. ¼ lin.
Hab. In Musæo D. Gul. Hooker.

34. Resedæ.
M. 1. 256. 52.
Long. corp. 1¼ lin. lat. ¼ lin.
Hab. in Resedâ luteâ. Ent. Brit. in loco.
Captus a Dom. Wilkin.

35. Ulicis.
M. 1. 256. 54.
Long. corp. 1½ lin. lat. ⅓ lin.
Hab. in Ulicibus. Aprili et seq.

36. Erysimi.
M. 1. 257. 56. P. 17. t. 7.
Long. corp. 1½ lin. lat. ½ lin.
Hab. in Cratægo Oxyacantha. Jun.

37. ptinoides.

M. 1. 258. 59.
Long. corp. 1½ lin. lat.
Hab. In Musæo D. Hooker.

38. constrictus.
M. 1. 258. 61.
Long. corp. 1 lin. lat. ½ lin.
Hab. in Cochlearia Armoracia. Jun.

** Corpore ovato, rostro sese pectori applicante, femoribus posticis crassis.

39. Alni.
M. 1. 260. 67. D. t. 249. f. 2.
Long. corp. 2 lin. lat. ¼ lin.
Hab. in Ulmo. Jun. i. Hybernat sub cortice.

40. ferrugineus.
M. 1. 260. 68.
Long. corp. 1½ lin. lat. ⅛ lin.
Hab. in Quercu.

41. rufus.
M. 1. 261. 69. D. t. 249. f. 1. et t. 389. f. 3.
Long. corp. 1½ lin. lat. ¼ lin.
Hab. in Quercu. Aug.

42. pilosus.
M. 1. 262. 72.
Long. corp. 2 lin. lat. ⅛ lin.
Hab. in Betula alba, Corylo, &c. Jun. i.

43. rhododactylus.
M. 1. 262. 74.
Long. corp. 1¼ lin. lat. ½ lin.
Hab. In Fagi foliis. Jun.

44. Oxyacanthæ.
M. 1. 263. 77.
Long. corp. $\frac{1}{2}$ lin. lat. $\frac{1}{4}$ lin.
Hab. in Cratægo Oxyacanthâ.

45. Avellanæ.
M. 1. 263. 78. D. t. 205. f. 3.
Long. corp. 1 lin. lat. $\frac{1}{2}$ lin.
Hab. in Corylo. Jun. f.

46. Salicis.
M. 1. 264. 79. D. t. 121. f. 5. 6. 7. Curculio Capreæ.
Long. corp. $1\frac{1}{4}$ lin. lat. $\frac{1}{2}$ lin.
Hab. in Salice. Jul. Aug.

*** Corpore ovato, rostro breviusculo nec pectori applicabili.

47. Antirrhini.
M. 1. 264. 80. P. 26. t. 18. Curc. Linariæ.
Long. corp. $1\frac{1}{2}$ lin. lat. $\frac{1}{2}$ lin.
Hab. in Antirrhino Linariâ. Sept. i.

48. crassus.
M. 1. 264. 81.
Long. corp. $1\frac{1}{4}$ lin. lat. $\frac{1}{4}$ lin.
Hab. In Mus. Dom. Hooker.

49. brevis.
M. 1. 265. 82.
Long. corp. 1 lin. lat. $\frac{1}{4}$ lin.
Hab. in Jul.

**** Corpore oblongo, thorace globoso. Pilosi.

50. Plantaginis.
M. 1. 265. 84.
Long. corp. 2½ lin. lat. 1 lin.
Hab. Hybernat sub Muscis.

51. Rumicis.
M. 1. 266. 85.
Long. corp. 2¼ lin. lat. 1 lin.
Hab.

52. arator.
M. 1. 266. 87.
Long. corp. 3¼ lin. lat. 1⅛ lin.
Hab. in Spergulâ Arvensi, Marsh. In. Mus. D. Hooker.

53. stramineus.
M. 1. 267. 88.
Long. corp. 1¾ lin. lat. 1¼ lin.
Hab. In Mus. Dom. J. Hooker.

54. nigrirostris.
M. 1. 267. 89. P. 96. t. 14.
Long. corp. 2 lin. lat. ½ lin.
Hab. in Sepibus Cratægi: etiam in graminosis paludibus; et in Collibus arenosis juxta mare. Æstate toto. Hybernat sub Muscis.

55. resinosus.
M. 1. 268. 91.
Long. corp. 3 lin. lat. 1 lin.
Hab. In Musæis D. Hooker.

56. interruptus.
M. 1. 269. 95.
Long. corp. 2½ lin. lat. 1 lin.
Hab. Martio.

57. seleneus.
M. 1. 269. 96.
Long. corp. 2¼ lin. lat. 1 lin.
Hab. In Musæis Dom. Hooker.

58. rigidus.
M. 1. 270. 97.
Long. corp. 2½ lin. lat. 1⅛ lin.
Hab. In Mus. Dom. Gul. Hooker.

59. acephalus.
M. 1. 271. 102.
Long. corp. 1⅔ lin. lat. lin.
Hab. in Cratægo Oxyacantha. Maio.

60. picipes.
M. 1. 272. 104.
Long. corp. 4 lin. lat.
Hab. Semel cepi.

**** Corpore cylindrico.

61. paraplecticus.
M. 1. 272. 106. D. t. 348. f. 2.
Long. corp. 7½ lin. lat. 1½ lin.
Hab. In Musæo D. T. Skrimshire.

62. Alismatis.
M. 1. 273. 108.
Long. corp. 1½ lin. lat. ½ lin.
Hab. in Alismate. Captus frequentior in aquam.

63. hypoleucus.
M. 1. 274. 109.
Long. corp. 1¼ lin. lat. ⅜ lin.
Hab. Sæpe cepi in sepimenta.

64. circulatus.
M. 1. 275. 110.

Long. corp. 2 lin. lat. $\frac{1}{3}$ lin.
Hab. Semel cepi.

65. granarius.
M. 1. 274. 111.
Long. corp. 2 lin. lat. $\frac{1}{3}$ lin.
Hab. in Oryza, Tapioca, &c. Æstate.

66. Oryzæ.
M. 1. 275. 114.
Long. corp. $1\frac{1}{4}$ lin. lat. $\frac{1}{4}$ lin.
Hab. in Oryza. Accepi a D. J. Hooker.

67. picicornis.
M. 1. 276. 115.
Long. corp. $1\frac{1}{3}$ lin. lat. $\frac{1}{4}$ lin.
Hab. in Resedâ luteâ. Jun. f.

68. laticollis.
M. 1. 276. 116.
Long. corp. 2 lin. lat. 1 lin.
Hab. Captus a Dom. J. Hooker.

c. Antennis fractis, femoribus dentatis.

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* Corpore ovato obtuso, rostro sese pectori intra pedes applicante.

69. Scrophulariæ.
M. 1. 276. 117. D. t. 60.
Long. corp. 3 lin. lat. 1 lin.
Hab. in Scrophulariâ. Jul.

70. Hortulanus.
M. 1. 278. 119. D. t. 206. f. 2.
Long. corp. $2\frac{1}{4}$ lin. lat. $\frac{1}{3}$ lin.
Hab. in Scrophularia. Jul.

71. immunis.
M. 1. 278. 120.
Long. corp. 1¼ lin. lat. ⅓ lin.
Hab. in Scrophulariâ. Jul. f.

72. Echii.
M. 1. 279. 122. P. 17. t. 12.
Long. corp. 3 lin. lat. 1 lin.
Hab. in Echio. Jul.

73. ovalis.
M. 1. 279. 123.
Long. corp. 1⅓ lin. lat. ½ lin.
Hab. in Gramine. Semel cepi.

74. fuliginosus.
M. 1. 280. 124.
Long. corp. 1½ lin. lat. ⅓ lin.
Hab. in Utricis. Jul.

75. dentatus.
M. 1. 280. 125.
Long. corp. 1¼ lin. lat. ⅓ lin.
Hab. In Musæis D. Hooker.

76. Quercicola.
M. 280. 126.
Long. corp. 1⅛ lin. lat. ½ lin.
Hab. in ripis. Jul.

77. Troglodytes.
M. 1. 281. 127.
Long. corp. 1¼ lin. lat. ½ lin.
Hab.

78. Urticæ.
M. 1. 281. 128.
Long. corp. 1½ lin. lat. ¼ lin.
Hab. in Urticâ dioricâ. Jul.

79. pleurostigma.
M. 1. 282. 131.
Long. corp. 1⅓ lin. lat. ¼ lin.
Hab. In Mus. Gul. J. Hooker.

80. subrufus.
M. 1. 282. 133.
Long. corp. 1 lin. lat.
Hab. In eodem Musæo.

81. didymus. Cur. supra fuscus, elytris striatis: macula laterali transversa, alba.
Fab. Syst. Eleut. 2. 482. 209. Rhyncænus didymus.
Long. corp. 1¼ lin. lat. ⅓ lin.
Hab. in Urticâ dioicâ. Jul.

82. viduus. Cur. cinereus, thorace tuberculato, elytris nigris cinereo variis, macula media apiceque albis. P. cum icone.
Long. corp. 1½ lin. lat. 1 lin.
Hab. in Urtica dioica. Jun.

** Corpore ovato acuto, rostro longissimo filiformi.

83. Nucum.
M. 1. 283. 136. Mart. t. 19. f. 26.
Long. 4½ lin. lat. 1½ lin.
Hab. in Corylo. Jun. f. Larva intra nuces.

84. Glandium.
M. 1. 284. 137.
Long. corp. 4½ lin. lat. 1¼ lin.
Hab. in Quercu. Larva in Glandibus.

85. tenuirostris.

M. 1. 284. 139. D. t. 249. f. 3.
Long. corp. 3 lin. lat. ¼ lin.
Hab. Accepi ab amico meo Rev. T. Skrimshire.

86. Pomorum.
M. 1. 285. 142.
Long. corp. 2¼ lin. lat. ½ lin.
Hab. in floribus Pomonæ. Maio.

87. pedicularius.
M. 1. 286. 143.
Long. corp. 2 lin. lat. ⅛ lin.
Hab. In Mus. D. Gul. Hooker.

88. fasciatus.
M. 1. 286. 144. D. t. 414. f. 3.
Long. corp. 2 lin. lat. ⅛ lin.
Hab. In Musæis D. Hooker.

89. Ulmi.
M. 1. 287. 145.
Long. corp. 2 lin. lat. ⅛ lin.
Hab. In Musæo Amici mei D. Gul. Hooker.

90. arcuatus.
M. 1. 288. 148.
Long. corp. 1½ lin. lat. ½ lin.
Hab. in Salice. Maio.

91. intermedius.
M. 1. 288. 150.
Long. corp. 1 lin. lat. vix ⅛ lin.
Hab. in Salicibus. In Mus. amici mei D. J. Hooker.

92. melanopterus.
M. 1. 289. 151.

Long. corp. $1\frac{2}{3}$ lin. lat. $\frac{1}{2}$ lin.
Hab. In Musæo Dom. Wilkin.

*** Corpore oblongo, rostro crassiori.

93. anglicanus.
M. 1. 290. 154. D. t. 34. f. 3. Cure. Germanus.
Long. corp. $2\frac{1}{4}$ lin. lat. $2\frac{1}{2}$ lin.
Hab. Semel cepi.

94. punctatus.
M. 1. 291. 155.
Long. corp. $1\frac{1}{2}$ lin. lat. $\frac{1}{2}$ lin.
Hab. In Musæis Dom. Hooker.

**** Corpore oblongo, rostro filiformi.

95. Tremulæ.
M. 1. 291. 156.
Long. corp. 3 lin. lat. 1 lin.
Hab. In Musæis D. Hooker.

96. Tortrix.
M. 1. 291. 157. Mart. t. 18. f. 2.
Long. corp. 3 lin. lat. 1 lin.
Hab. in Populo Tremulâ. Jun.

97. maculatus.
M. 1. 292. 158.
Long. corp. 2 lin. lat. $\frac{1}{2}$ lin.
Hab. in Corylo.

98. longimanus.
M. 1. 293. 161.

Long. corp. 4 lin. lat. $\frac{1}{3}$ lin.
Hab. Accepi a J. D. Hooker.

***** Corpore cylindrico.

99. atramentarius.
M. 1. 293. 163. P. 42. t. 19. Curculio Cerasi.
Long. corp. $2\frac{1}{2}$ lin. lat. $\frac{1}{2}$ lin.
Hab. Semel cepi. Jun.

100. semicylindricus.
M. 1. 294. 164.
Long. corp. $2\frac{1}{4}$ lin. lat. $\frac{1}{2}$ lin.
Hab. Accepi a D. J. Hooker.

B. Brevirostres.
a. Antennis integris, femoribus simplicibus.

101. latirostris.
M. 1. 295. 167. P. 15. t. 12. Anthribus latirostris.
Long. corp. $5\frac{1}{2}$ lin. lat. 2 lin. Mas. minor.
Hab.

102. ruficollis.
M. 1. 296. 169. P. 24. t. 19. Anthribus ruficollis.
Long. corp. $1\frac{1}{2}$ lin. lat. $\frac{3}{4}$ lin.
Hab. Hybernat sub cortice quercûs et populi.

103. planirostris.
M. 1. 297. 170. P. 15. t. 14. Anthribus planirostris.

Long. corp. 1¼ lin. lat. ½ lin.
Hab. in Fagi foliis. Maii. f. Hybernat sub cortice Fagi et aliorum.

b. Antennis fractis, femoribus simplicibus.

* Corpore ovato.

104. niger.
M. 1. 297. 172.
Long. corp. 6 lin. lat. 2 lin.
Hab. in Pruno spinoso. Jul.

105. scabrosus.
M. 1. 298. 174.
Long. corp. 3 lin. lat. 1½ lin.
Hab. Semel cepi.

106. pilosulus.
M. 1. 299. 175.
Long. corp. 5 lin. lat. 2 lin.
Hab.

107. carinatus.
M. 1. 299. 176.
Long. corp. 4 lin. lat. 1¼ lin.
Hab. Semel cepi.

108. Vau.
M. 1. 299. 177. D. t. 414. f. 1.
Long. corp. 3½ lin. lat. 2 lin.
Hab. sub lapidibus. Maii i.

109. 3-guttatus.
M. 1. 300. 178.
Long. corp. 3¼ lin. lat. 1½ lin.
Hab. cum priore.

110. vastator.

M. 1. 300. 180.
Long. corp. 4 lin. lat. $2\frac{1}{8}$ lin.
Hab. in Pruno spinoso. Jun.

111. asper.
Long. corp. 3 lin. lat. $1\frac{1}{4}$ lin.
M. 1. 301. 181.
Hab. in Pruno spinoso. Jun.

112. limbatus.
M. 1. 301. 183.
Long. corp. $2\frac{1}{2}$ lin. lat. 1 lin.
Hab. in Corylo.

113. anstriacus.
M. 1. 302. 184.
Long. corp. 4 lin. lat. $1\frac{1}{2}$ lin.
Hab.

114. plumbeus.
M. 1. 302. 186.
Long. corp. 3 lin. lat. $1\frac{1}{2}$ lin.

115. Coryli.
M. 1. 303. 187. Mart. t. 19. f. 20.
Long. corp. $2\frac{1}{4}$ lin. lat. 1 lin.
Hab. in Corylo, frequentissime. Æstate toto.

116. exaratus.
M. 1. 303. 188. D. t. 414. f. 2.
Long. corp. $2\frac{1}{2}$ lin. lat. $1\frac{1}{4}$ lin.
Hab. In Musæo Dom. J. Hooker.

117. setosus.
M. 1. 304. 189.
Long. corp. 2 lin. lat. $\frac{1}{4}$ lin.
Hab. in Betula alba, Corylo. Jul.

118. subrotundus.

M. 1. 304. 190.
Long. corp. 3 lin. lat. $1\frac{1}{2}$ lin.
Hab.

119. obesus.
M. 1. 304. 191.
Long. corp. $1\frac{1}{8}$ lin. lat. $\frac{3}{4}$ lin.
Hab. Captus a Gul. J. Hooker.

120. scabriculus.
M. 1. 304. 192.
Long. corp. $1\frac{1}{4}$ lin. lat. $\frac{1}{4}$ lin.
Hab. in Ulicibus mortuis.

121. hirsutulus.
M. 1. 305. 193.
Long. corp. $1\frac{2}{3}$ lin. lat. 1 lin.
Hab. In Musæis Dom. Hooker.

122. piceus.
M. 1. 305. 194.
Long. corp. $1\frac{1}{2}$ lin. lat. $\frac{1}{2}$ lin.
Hab. Jun. i.

123. Ædicii.
M. 1. 307. 201.
Long. corp. 3 lin. lat. $1\frac{1}{4}$ lin.
Hab. Maio.
Ædicium Serratulæ arvensis depascens.
D. Kirby, in loco. Ent. Brit.
Captus a Dom. Wilkin in horto.

124. maritimus.
M. 1. 307. 202.
Long. corp. vix. 3 lin. lat. $1\frac{1}{4}$ lin.
Hab. Lectus sub rejectamentis æstûs in paludibus maritimis.

125. muricatus. Curc. griseus, elytris striis elevatis hispidis, antennis rufis.
Fab. Eleut. 2. 544, 223.
Long. corp. 2 lin. lat. 1 lin.
Hab. Jul. f.

** Corpore oblongo.

126. nebulosus.
M. 1. 308. 203,
Long. corp. 7 lin. lat. 2¼ lin.
Hab. Captus in Rosæ caninæ foliis. Jun. i.

127. sulcirostris.
M. 1. 308. 204. Mart. t. 19. f. 23.
Long. corp. 7 lin. lat. 2⅛ lin.
Hab. Captus in Viis. Jun.

128. diffinis.
M. 1. 309. 205.
Long. corp. 5 lin. lat. 2 lin.
Hab. In Musæis D. Hooker.

129. lineatus.
M. 1. 309. 206. D. t. 389. f. 2.
Long. corp. 2½ lin. lat. ¼ lin.
Hab. in Ulicibus. Aprili.

130. cloropus.
M. 1. 310. 207. P. 19. t. 14.
Long. corp. 2 lin. lat. ⅛ lin.
Hab. Captus a Dom. Wilkin.

131. hispidulus.

M. 1. 310. 208.
Long. corp. 2¼ lin. lat. ⅓ lin.
Hab. in cretaceis et sabuletis.

132. rufipes.
M. 310. 209.
Long. corp. 1¾ lin. lat. ½ lin.
Hab. in Corylo Betula. Jun. i.

133. uniformis.
M. 1. 311. 210.
Long. corp. 1¾ lin. lat. ½ lin.
Hab. in Corylo. Maii. f.

134. flavipes.
M. 1. 311. 211.
Long. corp. 2 lin. lat. ⅓ lin.
Hab. Semel captus in Betula alba.

135. flavescens.
M. 1. 311. 212.
Long. corp. 2½ lin. lat. ½ lin.
Hab. Semel cepi.

136. macularius.
M. 1. 312. 215.
Long. corp. 2 lin. lat.
Hab. In Mus. Dom. J. Hooker.

137. griseus.
M. 1. 313. 217.
Long. corp. 2½ lin. lat.
Hab. In eodem Musæo.

c. Antennis fractis, femoribus dentatis.

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* Corpore ovato.

138. subglobosus.
M. 1. 313. 219.
Long. corp. 5 lin. lat. 2⅓ lin.
Hab. In viâ semel captus.

139. Ligustici.
M. 1. 313. 220.
Long. corp. 6 lin. lat. 2½ lin.
Hab. Semel cepi in viâ.

140. floccosus.
M. 1. 314. 222.
Long. corp. 5 lin. lat. 2⅓ lin.
Hab. Captus in viis.

141. ovatus.
M. 1. 315. 223.
Long. corp. 2⅓ lin. lat. ½ lin.
Hab. in Pruno spinosâ. Jun.

142. sulcatus.
M. 1. 315. 224.
Long. corp. 5 lin. lat. 2½ lin.
Hab. sub plantis maritimis. Marsham.

** Corpore oblongo.

143. oblongus.
M. 1. 316. 226. Mart. t. 20. f. 33.
Long. corp. 2½ lin. lat. ⅓ lin.
Hab. in Pruno spinosâ. Jul.

144. rufescens.
M. 1. 316. 227.
Long. corp. 2½ lin. lat. ½ lin.

Hab. cum priore.

145. cervinus.
M. 1. 317. 228.
Long. corp. 2½ lin. lat. ¼ lin.
Hab. in Urticâ. Jun. i.

146. Mali.
M. 1. 317. 230.
Long. corp. 3 lin. lat. 1 lin.
Hab. in Urticâ dioicâ. Jun.

147. Cnides.
M. 1. 318. 231.
Long. corp. 4 lin. lat. 1½ lin.
Hab. in Urticâ dioicâ. Jun.

148. cæsius.
M. 1. 318. 232.
Long. corp. 4 lin. lat. 1⅓ lin.
Hab. in Urticâ, in Salice, &c. Jul.

149. argentatus.
M. 1. 318. 233. D. t. 97.
Long. corp. 2½ lin. lat. 1 lin.
Hab. in Corylo. Jul.

26. ATTELABUS.

1. Avellanæ.
M. 1. 319. 1. Mart. t. 23. f. 5.
Long. corp. 3 lin. lat. 1½ lin.
Hab. in foliis Coryli Avellanæ. Jun. i.
Sub sole meridiano copulat, et deponat Ova in foliis Quercûs, vel Coryli Avellanæ, quorum nervos punctat curiose percurrens, in locis diversis; et tunc folia involvit in cylindro ab

apicibus: in hoc nido Larva producitur et educatur.

2. curculionoides.
M. 1. 320. 2. D. t. 149.
Long. corp. 2½ lin. lat. 1¼ lin. Mas minor.
Hab. in umbellis Sorbi Aucupariæ. Maio.

3. Betulæ.
M. 1. 321. 3. P. 20. t. 15.
Long. corp. 2 lin. lat. ½ lin.
Hab. in Betulæ albæ foliis, quæ rodit ut crispa evadunt.

27. CLERUS.

1. formicarius.
M. 1. 321. 1. D. 231. f. 2. Attelabus formicarius.
Long. corp. 4 lin. lat. 1 lin.
Hab. Bis cepi Aprili.

2. violaceus.
M. 1. 323. 3. Mart. t. 6. f. 7. Dermestes violaceus.
Long. corp. 2⅓ lin. lat. ¼ lin.
Hab. in Avibus putridis et exsiccatis: etiam in Ossibus animalium putridorum fere siccatis. Aprili.

3. Quadra.
M. 1. 323. 4.
Long. corp. 2 lin. lat. ¼ lin.
Hab. cum priore.

4. ruficollis.
M. 1. 324. 5.

Long. corp. 2¼ lin. lat. 1 lin.
Hab. in Sebo in Mercatorum Tabernis. Jul. i.

28. CERAMBYX. CAPRICORN BEETLE.

The Larvæ live in the trunks of various trees. The perfect Insect is sometimes found under the bark, but more frequently taken on the umbels of the mountain ash (Sorbus Aucuparia), or beaten into the batting net from the hedges of whitethorn (Cratægus).

* Thorace marginato, dentibus lateralibus.

1. coriarius.
M. 1. 325. 1. Mart. t. 24. f. 4.
Long. corp. maris 1 unc. 1 lin. lat. 5 lin.
———— fœm. 1 unc. 6 lin. lat. 6½ lin.
Hab. Captus volando. Jul. f.

** Thorace rotundato, spinis fixis lateralibus mucronato.

2. nebulosus.
M. 1. 325. 2. D. t. 394.
Long. corp. 3½ lin. lat. 1 lin.
Hab. in sepibus Cratægi. Jul. i.

3. hispidus.
M. 1. 326. 3. D. t. 64. f. 2. 3.
Long. corp. 2¼ lin. lat. ⅛ lin.
Hab. in Quercûs trunco. Jul.

4. pilosus.
M. 1. 327. 4.
Long. corp. 2½ lin. lat. ¼ lin.

Hab. in sepibus Cratægi. Jul. i.

5. moschatus.
M. 1. 327. 5. D. t. 94. f. 2.
Long. corp. 1 unc. 2 lin. lat. 3¼ lin.
Hab. in Salice. Jul. f.

*** Thorace inermi, subcylindrico.

6. populneus.
M. 1. 330. 9. Mart. t. 24. f. 8. 9.
Long. corp. 6 lin. lat. 1⅛ lin.
Hab. Semel verberavi a Quercûs foliis. Aug.

7. lineato-collis.
M. 1. 331. 10. D. t. 209.
Long. corp. 7 lin. lat. 2 lin. Mas minor.
Hab. in Heracleo. Marsham. In Mus. Rev. T. Skrimshire.

8. cylindricus.
M. 1. 331. 11.
Long. corp. 4 lin. lat. 1 lin.
Hab. in Coryli foliis.

9. præustus.
M. 1. 333. 14. Mart. t. 28. f. 12.
Long. corp. 2 lin. lat. ½ lin.
Hab. in Cratægi sepibus. Maii. f.

**** Thorace inermi, subrotundo, sive exgloboso depresso.

10. minutus.
M. 1. 337. 21.
Long. corp. 2½ lin. lat. ½ lin.
Hab. In Mus. Dom. Wilkin.

***** Thorace inermi, subgloboso, nec depresso.

11. arcuatus.
M. 1. 338. 24. D. t. 84. f. 1.
Long. corp. 3 lin. lat. 2⅛ lin.
Hab. Accepi a D. Francis.

12. arietis.
M. 1. 339. 25. D. t. 27.
Long. corp. 7 lin. lat. 1¼ lin.
Hab. Jun.

29. LEPTURA. WOOD BEETLE.

Habitat Larva et Imago in locis similibus cum Cerambycibus.

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* Thorace spinoso vel dentato.

1. meridiana.
M. 1. 340. 1. Mart. t. 25. f. 11. 12. 17.
Long. corp. 1 unc. lat. 2½ lin.
Hab. in umbelliferis floribus. Aug. i.

2. rufiventris.
M. 1. 341. 2.
Long. corp. 8 lin. lat. 1⅓ lin.

Hab. Jul. i.

3. inquisitor.

M. 1. 341. 3. Mart. t. 25. f. 19. Rhagium inquisitor.

Long. corp. 9 lin. lat. 2⅓ lin. Mas minor.

Hab. in Fraxini Trunco. Maio.

4. bifasciata.

M. 1. 342. 4. D. t. 94. f. 1. Rhagium bifasciatum.

Long. corp. 9½ lin. lat. 2⅓ lin. Mas minor.

Hab. in floribus Sorbi aucupariæ. Maio.

5. nigro-lineata.

M. 1. 343. 5. D. t. 353. f. 1.

Long. corp. 10 lin. lat.

Hab. Capta a D. Francis in floribus Sorbi Aucupariæ. Maio.

6. bimaculata.

M. 1. 343. 6.

Long. corp. 9½ lin. lat. 2⅓ lin.

Hab. Capta infrequenter in floribus Sorbi Aucupariæ.

Dubio an nigro-lineata, et bimaculata sunt distinctæ species, vel Varietates L. bifasciatæ.

Meum solum specimen Lept. bimaculatæ in copulatione cum mare bifasciatæ cepi.

** Thorace inermi.

7. micans.

M. 1. 344. 8. Mart. t. 28. f. 16. 17. Leptura aquatica.

Long. corp. 4 lin. lat. 1¼ lin.
Hab. in Potamogetone. Aug.

8. fasciata.
M. 1. 344. 9. P. 29. t. 5. Donacia dentipes.
Long. corp. 5 lin. lat. 1¼ lin.
Hab. in Iride pseudacori, Salice viminali. Jun.

9. vittata.
M. 1. 345. 10. P. 29. t. 11. Donacia vittata.
Long. corp. 4½ lin. lat. 1½ lin.
Hab. cum priore. Jun.

10. Sagittariæ.
M. 1. 345. 11. P. 29. t. 7. Donacia Sagittariæ.
Long. corp. 5 lin. lat. 1½ lin. Mas minor.
Hab. cum prioribus. Jun.

11. ænea.
M. 1. 346. 12.
Long. corp. 4 lin. lat. 1⅛ lin.
Hab. in plantis aquaticis. Jun. f.

12. Festucæ.
M. 1. 346. 13. P. 29. t. 2. Donacia Festucæ.
Long. corp. 4 lin. lat. 1⅛ lin.
Hab. in Festuca aquatica et aliis plantis aquaticis. Jul.

13. Nymphææ.
M. 1. 347. 15.
Long. corp. 4½ lin. lat. 1⅛ lin.
Hab. in Nymphææ foliis. Jul.

14. linearis.
M. 1. 347. 16.
Long. corp. 5 lin. lat. 1 lin.

Hab. in plantis aquaticis infrequenter. Jul.

15. Hydrocharis.

M. 1. 347. 17. P. 29. t. 17. Donacia Hydrocharis.

Long. corp. 4½ lin. lat. 1½ lin.

Hab. in Typhis. Maio. Jun.

16. melanocephala.

M. 1. 348. 18.

Long. corp. 3 lin. lat. ¾ lin

Hab. In Mus. Dom. J. Hooker.

17. simplex.

M. 1. 348. 19. Mart. t. 28. f. 15. Donacia simplex.

Long. corp. 6 lin. lat. 1¼ lin.

Hab. in plantis aquaticis. Jun. Jul.

18. fusca.

M. 1. 349. 20.

Long. corp. 3 lin. lat. 1⅛ lin.

Hab. in plantis aquaticis. In paludibus, Bardolph Fen.

19. palustris.

M. 1. 349. 21.

Long. corp. 5½ lin. lat. 1¼ lin.

Hab. cum priore.

20. malanura.

M. 1. 350. 23. Mart. t. 27. f. 7.

Long. corp. 4 lin. lat. 1⅛ lin.

Hab. in floribus umbelliferis. Jul

21. lævis.

M. 1. 351. 26. P. 34. t. 16.

Long. corp. 4 lin. lat. 1 lin. Mas minor.

Hab. in floribus umbelliferis, Jul.

22. livida.

M. 1. 352. 27. Mart. t. 28. f. 13.
Long. corp. 3¼ lin. lat. 1⅛ lin.
Hab. in floribus umbelliferis, Jul.

23. femorata.

M. 1. 352. 28.
Long. corp. 3½ lin. lat. ¼ lin. Mas minor.
Hab. Cepi, volantes ad Sepes.

24. elongata.

M. 1. 355. 33. D. t. 81. f. 4.
Long. corp. 7 lin. lat. 1½ lin.
Hab. in floribus umbelliferis. Jul.

30. NECYDALIS, CLIPT-WINGED BEETLE.

* Elytris alis abdomineque multo brevioribus.

I have not known any species of this division to be captured in Norfolk.

** Elytris subulatis longitudine abdominis.

1. cærulea.

M. 1. 359. 4. Mart. t. 23. f. 6.
Long. corp. 5 lin. lat. ¼ lin.
Hab. in Rubi floribus. Jul.

2. ceramboides.

M. 1. 360. 5. Mart. t. 23. f. 5.
Long. corp. 4½ lin. lat. ⅛ lin.
Hab. in floribus umbellatis. Jul.

3. lurida.
M. 1. 360. 6.
Long. corp. 3½ lin. lat. ½ lin.
Hab. in Graminibus. Jul.

4. Podagrariæ.
M. 1. 360. 7.
Long. corp. 6½ lin. lat. 1½ lin.
Hab. In Musæis D. Hooker.
Captus a Dom. Roberto Paul ad Starston.

31. LAMPYRIS. GLOW-WORM.

The Larva of the only species I know is very frequent on our heaths, and feeds on grass and leaves.

1. noctiluca.
M. 1. 361. 1. Mart. t. 7. Gen. 19. f. 1. 2.
Long. corp. maris 5½ lin. lat. 1 lin.
——————— fœm. 8 lin. lat. 2 lin.
Hab. in Ericetis. Jul.

32. PYROCHROA.

I have never seen the Larvæ of this genus.

1. rubens.
M. 1. 363. 1. D. t. 56. f. 1. Mart. t. 7. Gen. 19. f. 3.
Long. corp. 6 lin. lat. 1½ lin.
Hab. Jun.

33. CANTHARIS. SOFT-WINGED BEETLE.

The Larvæ of this genus are totally unknown to me: they are said to live in wood.

* Capite declinato, thorace depresso.

1. fusca.
   M. 1. 365. 1. Mart. t. 29. f. 13. 14. male coloratæ.
   Long. corp. 6 lin. lat. 1⅛ lin.
   Hab. in Cratægi floribus. Jun. i.
2. obscura.
   M. 1. 365. 2.
   Long. corp. 3 lin. lat. 1 lin.
   Hab. cum priore. Jun. i.
3. ruficollis.
   M. 1. 366. 3. Mart. t. 29. f. 11. pedibus antennisque errore coloratis.
   Long. corp. 3 lin. lat. ¼ lin.
   Hab. in Cratægi floribus. Jun. i.
4. fulvicollis. Can. fulva elytris oculis et capitis posteriore parte nigris.
   Payk. Faun. Suec. 1. 266. 12.
   Long. corp. 3 lin. lat. ¼ lin.
   Hab. in plantis aquaticis, et in floribus. Jun. i.
5. lateralis. Can. thorace marginato rubro, corpore fusco, elytris margine exteriore flavescentibus.
   L. 2. 648. 6.
   Long. corp. 2 lin. lat. 1 lin.
   Hab. In Musæo Dom. Gul. J. Hooker.
6. livida.
   M. 1. 366. 4. Mart. t. 29. f. 7. non est, ut magnitudo determinet.
   Long. corp. 6 lin. lat. 1⅛ lin.
   Hab. in floribus. Jun. Jul.

7. rufa. Can. rufa, alis oculisque nigris.
   L. 647. 4.
   Mart. t. 29. f. 7. si oculi nigri colorati essent.
   Hab. in floribus. Jun.
   Similis lividæ, sed dimidio minor.
   Var. nigris genubus.
8. testacea.
   M. 1. 367. 5. Mart. t. 29. f. 6.
   Long. corp. 2½ lin. lat. ½ lin.
   Hab. in Quercu, Betulâ albâ. Jul.
9. pallida.
   M. 1. 368. 6.
   Long. corp. 3½ lin. lat. ½ lin.
   Hab. in Quercu, Betulâ albâ. Maio.
10. melanura.
   M. 1. 368. 7.
   Long. corp. 4 lin. lat. ½ lin.
   Hab. in umbelliferis. Jul. Aug.
11. ænea.
   M. 1. 369. 8. D. t. 96. f. 2.
   Long. corp. 4½ lin. lat. 1 lin.
   Hab. In Mus. D. Hooker.
12. bipustulata.
   M. 1. 369. 9. Mart. t. 29. f. 1.
   Long. corp. 3 lin. lat. ½ lin.
   Hab. in Graminibus. Jun.
13. sanguinolenta.
   M. 1. 370. 10.
   Long. corp. 2¼ lin. lat. ½ lin.
   Hab. in Typha minore in paludibus maritimis,
   Aug. f.

14. fasciata.
M. 1. 371. 11. Mart. t. 29. f. 8.
Long. corp. 1¼ lin. lat. ¼ lin.
Hab. in floribus. Jul.

** Capite declinato, thorace teretiusculo.

Of this division there are none found in this county.

*** Capite prominente, postice attenuato, thorace subrotundo.

15. biguttata.
M. 1. 372. 15. Mart. t. 29. f. 5.
Long. corp. 2 lin. lat. ¼ lin.
Hab. in Quercu. Jul.

16. melanocephala.
M. 1. 374. 18.
Long. corp. 1¼ lin. lat. ¼ lin.
Hab. in Betulâ albâ. Jul. Aug.

17. immunis.
M. 1. 375. 20.
Long. corp. 2 lin. lat. ¼ lin.
Hab. in Quercu. Æstate toto.

18. flavicollis.
M. 1. 375. 22.
Long. corp. 3 lin. lat. ½ lin.
Hab. In Mus. Dom. J. Hooker.

34. ELATER. SPRING BEETLE.

The Larvæ I never met with: Geoffroy tells us they are found in decayed wood.

1. bipustulatus.
   M. 1. 375. 1.
   Long. corp. 3¼ lin. lat. vix. 1 lin.
   Hab. Unum verberavi ab Urticis.
2. ruficollis.
   M. 1. 376. 2. Mart. t. 30. f. 3.
   Long. corp. 4 lin. lat. 1 lin.
   Hab. in Quercu. Captus a Dom. T. Skrimshire.
3. thoracicus.
   M. 1. 376. 3. Mart. t. 31. f. 12.
   Long. corp. 5 lin. lat. 1 lin.
   Hab. In Musæis Dom. Hooker.
4. obscurus.
   M. 1. 377. 4. Mart. t. 30. f. 1.
   Long. corp. 4½ lin. lat. 1⅛ lin.
   Hab. Captus frequens in viis. Aprili.
5. lineatus.
   M. 1. 377. 5.
   Long. corp. 4½ lin. lat. 1⅛ lin.
   Hab. Sub. Ranunculo. &c. in viminosis nuper satis. Maio.
6. bicolor.
   M. 1. 378. 7. P. S. t. 11. Elater linearis.
   Long. corp. 6 lin. lat. 1½ lin.
   Hab. In foliis Quercûs. Aug. f.

Var. thorace maculâ mediâ, capite et scutello nigris.

7. unicolor.
M. 1. 379. 8.
Long. corp. 4½ lin. lat.
Hab. In Mus. Dom. Gul. J. Hooker.

8. marginatus.
M. 1. 379. 9. Mart. t. 31. f. 15.
Long. corp. 5 lin. lat. 1 lin.
Hab.

9. suturalis.
M. 1. 379. 11.
Long. corp. 3 lin. lat. ¼ lin.
Hab. in Quercu, Betulâ albâ. Aug.

10. nitidulus.
M. 1. 380. 12.
Long. corp. 2 lin. lat. ⅓ lin
Hab. in Betulâ albâ. Aug.

11. lateralis.
M. 1. 380. 13.
Long. corp. 4 lin. lat. ½ lin.
Hab. Captus a Dom. Wilkin.

12. castanipes.
M. 1. 381. 15.
Long. corp. 5½-8½ lin. lat. 1¼-2 lin.
Hab. in Graminibus.

13. nigro-æneus.
M. 1. 382. 18.
Long. corp. 3 lin. lat. ½ lin.

14. balteatus.
M. 1. 384. 22. Mart. t. 30. f. 5.

Long. corp. 4 lin. lat. 1 lin.
Hab. in Quercûs foliis. Jul. Captus sub ligni fragmentis. Martio.

15. cupreus.
M. 1. 384. 23. Mart. t. 31. f. 16. P. 77. t. 2.
Long. corp. 7 lin. lat. 2 lin.
Hab. In Musæo Dom. Gul. J. Hooker.

16. sputator.
M. 1. 384. 24. D. t. 96. f. 4.
Long. corp. 6 lin. lat. 1¼ lin.
Hab. in Quercûs foliis, et in Graminibus passim. Jun.

17. murinus.
M. 1. 385. 26. Mart. t. 31. f. 17.
Long. corp. 8 lin. lat. 2½ lin.
Hab. in Lolio perenni frequentissime. Jul.

18. tessellatus.
M. 1. 386. 27.
Long. corp. 8 lin. lat. 1¾ lin.
Hab. in Graminibus, et Quercûs foliis. Jul. i.

19. holosericeus.
M. 1. 386. 28.
Long. corp. 5 lin. lat. 1¼ lin
Hab. infrequentior. Jul.

20. impressus.
M. 1. 387. 29.
Long. corp. 6-8 lin. lat. 2¼ lin.
Hab.

21. obsoletus.
M. 1. 387. 30.
Long. corp. 5 lin. lat. 1 lin.

Hab. Captus a Dom. Wilkin.

22. cyaneus.
M. 1. 388. 32. S. t. 26.
Long. corp. 6 lin. lat. 2 lin.
Hab. in ericetis non infrequentissime.

23. æneus.
M. 1. 388. 33.
Long. corp. 3 lin. lat. vix. 1 lin.
Hab. sub plantis in viminosis nuper satis. Aprili.

24. nigrinus.
M. 1. 389. 35.
Long. corp. 5 lin. lat. 1½ lin.
Hab. In Musæis Dom. Hooker.

25. vittatus. El. fuscus, elytrorum vitta pedibusque testaceis.
Fab. Eleut. 2. 231. 52.
Long. corp. 5 lin. lat. 1¼ lin.
Hab. Captus a Dom. J. Hooker ad Sprowston.

26. 4-pustulatus. El. niger; elytris striatis, punctis 2 testaceis.
Fab. Eleut. 2. 248. 137.
Long. corp. 1½ lin. lat. ½ lin.
Hab. In Mus. Dom. J. Hooker.

35. CICINDELA. GLOSSY BEETLE.

1. campestris.
M. 1. 389. 1. D. t. 12.
Long. corp. 6 lin. lat. 2⅓ lin.
Hab. in ericetis. Maio.

2. hybrida. Cic. subpurpurascens, elytris fascia lunulisque duabus albis.

L. 657. 2.

Hab. in Collibus arenosis maritimis juxta Yarmouth. Maio.

3. riparia.

M. 1. 392. 4. D. t. 301.

Long. corp. 3 lin. lat. 1⅛ lin.

Hab. in locis humidis. Jul.

4. uliginosa.

M. 1. 392. 5.

Long. corp. 4 lin. lat. 1½ lin.

Hab. cum priore. Jul.

5. aquatica.

M. 1. 393. 6. D. t. 351. f. 2.

Long. corp. 2 lin. lat. ⅛ lin.

Hab. in locis humidis. Jul. f.

6. semipunctata.

M. 1. 394. 8.

Long. corp. 2¼ lin. lat. ¼ lin.

Hab. in locis apricis. Jul. Aug.

7. flavipes.

M. 1. 394. 9. P. 20. t. 2.

Long. corp. 2 lin. lat. ¼ lin.

Hab. in locis humidis. Jun. i.

8. biguttata.

M. 1. 395. 10.

Long. corp. 2 lin. lat. ⅛ lin.

Hab. in locis apricis. Jun.

36. RUFIPES. BURN COW.

1. viridis.

M. 1. 397. 4. D. t. 174.

Long corp. 3 lin. lat. $\frac{1}{4}$ lin.
Hab. in Betulâ albâ.

2. pygmæa.
M. 1. 398. 7. D. t. 282.
Long. corp. $1\frac{1}{2}$ lin. lat. $\frac{1}{2}$ lin.
Hab. In Mus. D. Gul. Hooker, capta in Menyanthe trifoliata. Jun. i.

37. PARNUS.

1. prolifericornis.
M. 1. 399. 1. P. 13. t. 1.
Long. corp. 2 lin. lat. $\frac{1}{2}$ lin.
Hab. in plantis aquaticis; capta frequens percurrens in aquam. Aprili.

38. HETEROCERUS.

1. marginatus. H. fuscus villosus, elytris margine fasciisque tribus interruptis flavis. P. 23. t. 11.
M. 1. 200. 1.
F. Eleut. 1. 356. 3. Heterocerus lævigatus.
Long. corp. $2\frac{1}{4}$ lin. lat. $\frac{1}{3}$ lin.
Hab. in palustribus maritimis, et in locis, ubi aqua per hyemem constiterit. Aug.

2. lævigatus. H. fuscus, villosis; elytris nigris, maculis novem vel decem et margine exteriore rubris. B.
Fab. Eleut. 1. 355. 1. Heterocerus marginatus.
Payk. 1. 337. 1. Heterocerus marginatus?
Panz. Faun. Germ. cum icone. Heterocerus lævigatus.

39. HYDROPHILUS.

Larva et Imago in aquis.

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* Thorace lævi.

1. piceus.
   M. 1. 401. 1. Sh. t. 292.
   Long. corp. 1 unc. 7 lin. lat. 9 lin.
   Hab. in aquis. Captus a Dom. Gul. J. Hooker
2. caraboides.
   M. 1. 402. 2. Mart. t. 34. f. 28. Dytiscus caraboides.
   Long. corp. 9 lin. lat. 4 lin.
   Hab. in aquis. Julio.
3. fuscipes.
   M. 1. 403. 3. Mart. t. 38. f. 15. Dytiscus fuscipes.
   Long. corp. $3\frac{1}{2}$ lin. lat. $\frac{1}{4}$ lin.
   Hab. in aquis. Æstate toto.
4. orbicularis.
   M. 1. 403. 4.
   P. 67. 13. In Entomologia Britannica ab errore Typographico, numeri omittuntur; et affiguntur alii numeri, quæ ad De Geer forsan referunt.
   Long. corp. $2\frac{1}{3}$ lin. lat. $1\frac{1}{4}$ lin.
   Hab. in aquis.
5. luridus.

M. 1. 404. 7. Mart. t. 33. f. 10. Dytiscus luridus.
Long. corp. 2¼ lin. lat. 1⅛ lin.
Hab. in aquis. Jun. i.

6. dermestoides.
M. 1. 405. 9.
Long. corp. 2¼ lin. lat. 1 lin.
Hab. in aquis.

7. bipunctatus.
M. 1. 406. 11. Mart. t. 33. f. 9. Dytiscus coccinelloides.
P. 67. t. 14.—et non 15 ut citavit Dom. Marsham.
Long. corp. 1¼ lin. lat. ¼ lin.
Hab. in aquis. Aug. f.

8. minutus.
M. 1. 406. 12. Mart. t. 33. f. 16.
Long. corp. 1⅓ lin. lat. ⅛ lin.
Hab. in aquis. Aug.

9. bipustulatus.
M. 1. 406. 13.
Long. corp. 1¼ lin. lat. ⅜ lin.
Hab. in aquis. Jul.

10. impressus.
M. 1. 408. 19.
Long. corp. ⅝ lin. lat. ⅛ lin.
Hab. in aquis. Aprili.

11. ochropterus.
M. 1. 409. 22.
Long. corp. 1 lin. lat. ⅛ lin.
Hab. in aquis.

12. griseus. Hydr. supra cinereus, subtus fuscus.
Fab. Eleut. 1. 253. 24.
Long. corp. 2¼ lin. lat. 1½ lin.
Hab. in aquis stagnantibus, in paludibus maritimis. Aug.
Thorax vivi gerit duas maculas fuscas.

** Thorace longitudinaliter rugoso.

13. stagnalis.
M. 1. 409. 23. P. 26. t. 6. Elophorus aquaticus.
Long. corp. 2½ lin. lat. 1 lin.
Hab. in aquis stagnantibus. Æstate toto.

14. affinis.
M. 1. 409. 24.
Long. corp. 1 lin. lat. ⅓ lin.
Hab. cum priore.

15. dorsalis.
M. 1. 410. 25.
Long. corp. 2 lin. lat.
Hab. in aquis. In Mus. Dom. Gul. J. Hooker.

16. cinereus.
M. 1. 410. 26.
Long. corp. 2 lin. lat. ⅞ lin.
Hab. in aquis stagnantibus. Julio.

17. nubilus.
M. 1. 410. 27.
Long. corp. 1½ lin. lat. ½ lin.
Hab. cum. H. Stagnali. Aprili.

18. cicindeloides.

M. 1. 411. 28.
Long. corp. 2 lin. lat. ¼ lin.
Hab. Accepi a D. Gul. Skrimshire.

40. DYTISCUS. WATER BEETLE.

Larva et Imago in aquis.

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* Elytris fæmineis sulcatis.

1. marginalis.
M. 1. 411. 1. D. t. 161.
Long. corp. maris 1 unc. 3 lin. lat. 8 lin.
——————— fœm. 1 unc. 1 lin. lat. 7 lin.
Hab. In aquis stagnantibus. Æstate toto.

2. punctulatus.
M. 1. 412. 2. Mart. t. 34. f. 24. Dytiscus marginalis.
Long. corp. maris 1 unc. 1 lin. lat. 7 lin.
——————— fœm. 1 unc. lat. 5½ lin.
Hab. in aquis. Aprili.

3. cinereus.
M. 1. 413. 3. D. t. 68. f. 5. fœm. Mart. t. 32. f. 7. 8.
Long. corp. 8 lin. lat. 4 lin.
Hab. in aquis. Æstate toto.

** Utroque sexu lævi.

4. striatus.
M. 1. 414. 4. Mart. t. 34. f. 27.

Long. corp. 8 lin. lat. 4 lin.
Hab. in aquis stagnantibus. Æstate toto.

5. obscurus.
M. 1. 414. 5.
Long. corp. 6 lin. lat. 3 lin.
Hab. in aquis. Maio.

6. collaris.
M. 1. 415. 6.
Long. corp. 4½ lin. lat. 2½ lin.
Hab. in aquis. Maii. f.

7. notatus. Dyt. fuscus, thorace flavo, punctis 4 nigris, elytris stria suturali flava.
Fab. Ent. Syst. 1. 195. 38.
—— Eleut.
Ent. Trans. 1. pag. 89.
Long. corp. 5¼ lin. lat.
Hab. in aquis stagnantibus. Dom. Haworth, P. E. S. in cujus Musæo.

8. bipustulatus.
M. 1. 415. 7.
Long. corp. 4½ lin. lat. 2½ lin.
Hab. in aquis. Jun. i.

9. aeuductus.
M. 1. 416. 8.
Long. corp. 4½ lin. lat. 2¼ lin.
Hab. in aquis. Jun. i. Mera varietas præcedentis.

10. uliginosus.
M. 1. 416. 9. Mart. t. 32. f. 2. et 5.
Long. corp. 4½ lin. lat. 2½ lin.
Hab. in aquis. Maii. f.

11. inæqualis.
    M. 417. 11. P. 14. t. 8.
    Long. corp. 3½ lin. lat. 1½ lin.
    Hab. in aquis.
12. Hybneri.
    M. 1. 417. 12.
    Long. corp. 4 lin. lat. 2 lin.
    Hab. in aquis. Aug.
13. Hermanni.
    M. 1. 418. 13. Mart. t. 33. f. 17.
    Long. corp. 4½ lin. lat. 2 lin.
    Hab. in aquis. Accepi a Dom. Gul. J. Hooker.
14. bipunctatus.
    M. 1. 418. 15. D. t. 303.
    Long. corp. 4 lin. lat. 2 lin.
    Hab. in. aquis stagnantibus. Mus. f.
15. politus.
    M. 1. 419. 16.
    Long. corp. 3 lin. lat. 1½ lin.
    Hab. in aquis. Aug.
16. vitreus. Dyt. nigro-subæneus; elytris macula oblique sinuata in medio, et puncto juxta apicem flavo-fenestratis. B.
    Payk. 1. 217. 27.
    Long. corp. 4 lin. lat. 2 lin.
    Hab. in aquis lente fluentibus. Aug. f.
17. abbreviatus. Dyt. niger, elytris striga undulata baseos punctisque duobus, altero in medio majore, altero ad apicem obsoleto, flavescentibus. B.
    Fab. Eleut. 1. 265. 40.

P. 14. t. 1.
Payk. 1. 217. 26.
Long. corp. 4 lin. lat. 2 lin.
Hab. in aquis. In Mus. Dom. Gul. J. Hooker.

18. ovatus.
M. 1. 419. 17. D. t. 68. f. 3. 4.
Long. corp. 2 lin. lat. 1 lin.
Hab. in aquis. Æstate toto.

19. minutus.
M. 1. 419. 18.
Mart. t. 33. f. 13. Typographi errore in Ent. Brit.
Long. corp. 2 lin. lat. 1 lin.
Hab. in aquis. Maii. f.

20. hyalinus.
M. 1. 420. 19.
Long. corp. 2 lin. lat. 1 lin.
Hab. in aquis. Maii. f.

21. sparsus. Dyt. ferrugineus nitidus; coleoptrorum disco obscuriori; elytris punctis impressis ad basin in tribus lineis dispositis, ad apicem sparsis. B.
M. 1. 430. 49. Errore in altera divisione positus.
Long. corp. 2 lin. lat. 1 lin.
Hab. in aquis in paludibus maritimis. Æstate toto.

22. crassicornis.
M. 1. 420. 20.
Long. corp. 2 lin. lat. ¾ lin.
Hab. in aquis. In Mus. Dom. Gul. J. Hooker.

23. dorsalis.

M. 1. 421. 21. P. 14. t. 2.
Long. corp. 1¼ lin. lat. ½ lin.
Hab. in aquis. Jun.

24. elegans.
M. 1. 421. 22. P. 24. t. 5.
Long. corp. 2 lin. lat. ¼ lin.
Hab. in aquis stagnantibus frequentissimè. Jul.

25. 12-pustulatus.
M. 1. 422. 23.
Long. corp. 2¼ lin. lat. vix 1 lin.
Hab. in aquis. Semel cepi et dedi ad Dom. Haworth.

26. humeralis.
M. 1. 422. 24.
Long. corp. 2 lin. lat. ¼ lin.
Hab. in aquis stagnantibus. Jul.

27. melanocephalus.
M. 1. 423. 25.
Long. corp. 1¼ lin. lat. ½ lin.
Hab. in aquis. Jun.

28. liturātus.
M. 1. 423. 26. P. 14. t. 4.
Long. corp. 1¼ lin. lat. ½ lin.
Hab. in aquis. Æstate toto.

29. trifidus.
M. 1. 423. 27. P. 26. t. 2.
Long. corp. 1¼ lin. lat. ⅛ lin.
Hab. in aquis. Jun. f.

30. confluens.
M. 1. 424. 28. P. 14. t. 5.
Long. corp. 1½ lin. lat. ⅛ lin.

Hab. in aquis stagnantibus. Jul.

31. recurvus.
M. 1. 424. 29. P. 26. t. 4.
Long. corp. 1¼ lin. lat. ⅜ lin.
Hab. in aquis. Jul.

32. flexuosus.
M. 1. 425. 31. P. 26. t. 1.
Long. corp. vix 1 lin. lat. ⅜ lin.
Hab. in aquis. Aug.

33. ovalis.
M. 1. 425. 32.
Long. corp. 1½ lin. lat. ⅜ lin.
Hab. in aquis stagnantibus. Jul.

34. lineatus.
M. 1. 423. 35.
Long. corp. 2⅓ lin. lat. 1⅛ lin.
Hab. in aquis. Jun.

35. punctatus.
M. 1. 426. 36.
Long. corp. 2 lin. lat. ⅞ lin.
Hab. in aquis.

36. conspersus.
M. 1. 427. 37.
Long. corp. 4 lin. lat. 2 lin.
Hab. in aquis rarior.

37. holosericeus.
M. 1. 427. 39.
Long. corp. 2 lin. lat. 1 lin.
Hab. in aquis. In Mus. Dom. Wilkin.

38. chalconatus. Dyt. obscuro-æneus, subtus ater.

Antennis ore pedibusque brunneis. Elytris punctis aliquot in striis dispositis. B.
Panz. Faun. Germ. cum icone.
M. 1. 428. 41. Dytiscus nigro-aeneus?
Long. corp. 3½ lin. lat. 2 lin.
Hab. in aquis. Aprilis initio.
Antennarum articulus extremus niger.

*** Capite exserto, femoribus posticis laminâ latâ tectis.

39. ruficollis.
M. 1. 428. 43. D. t. 68. f. 1. 2. Dyt. minutus.
Long. corp. 1½ lin. lat. ⅓ lin.
Hab. in aquis. Jul.

40. assimilis.
M. 1. 429. 44.
Long. corp. 2 lin. lat. ⅓ lin.
Hab. in aquis. Aug.

41. lineato-collis.
M. 1. 429. 45.
Long. corp. 1½ lin. lat. ⅓ lin.
Hab. in aquis. Aug.

42. interpunctatus.
M. 1. 429. 46.
Long. corp. 2¼ lin. lat. 1 lin.
Hab. in aquis. Aug.

43. flavicollis.
M. 1. 430. 47.

Long. corp. 1½ lin. lat. ½ lin.
Hab. in aquis. Jul.

44. obliquus. Dyt. ferrugineus elytris maculis quinque obliquis fuscis.
Panz. Faun. Germ. cum icone.
Long. corp. 1¼ lin. lat. ⅓ lin.
Hab. in aquis cum congeneribus.

41. CARABUS. GROUND BEETLE.

The Larvæ I have never observed: they are said to live in the ground or in decayed wood, where they perform their metamorphosis. The perfect Insects prey on weaker Insects, or on small Larvæ, and are most frequently to be found concealed under wood, peas' haum, &c.

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* Thorace postice angulato.

1. violaceus.
M. 1. 432. 2. D. t. 222. f. 1.
Long. corp. 13 lin. lat. 4 lin.
Hab. Jul. f.

3. hortensis.
M. 1. 233. 4. P. 5. t. 2.
Long. corp. 11 lin. lat. 3¾ lin.
Hab.

4. granulatus.
M. 1. 233. 5. D. t. 221. f. 3. non bene.
Long. corp. 10 lin. lat. 3 lin.
Hab. in quisquiliis.

5. cetenulatus.

M. 1. 234. 6. P. 4. t. 6.
Long. corp. 11 lin. lat. 3½ lin.
Hab.

** Thorace posticè truncato integro, elytris æquali.

6. depressus.
M. 1. 435. 9. P. 11. t. 6.
Long. corp. 8 lin. lat. 3¼ lin.
Hab, In Musæo Dom. Wilkin.

7. gibbosus.
M. 1. 436. 10.
Long. corp. 7 lin. lat. 3 lin.
Hab. Captus in viis. Jul.

8. ruficornis.
M. 1. 437. 11. Mart. t. 36. f. 13. P. 30. t. 2.
Long. corp. 7 lin. lat. 2½ lin.
Hab. sub lapidibus. Jul.

9. obscurus.
M. 1. 437. 13.
Long. corp. 6 lin. lat. 2 lin.
Hab.

10. flavipes.
M. 1. 437. 14. P. 11. t. 12.
Long. corp. 6 lin. lat. 2 lin.
Hab. sub lapidibus. Jun.

11. melanocephalus.
M. 1. 438. 15. Mart. t. 37. f. 26.
Long. corp. 3½ lin. lat. 1⅛ lin.
Hab. sub lapidibus frequens. Æstate toto.

12. vulgaris.
M. 1. 438. 16. Mart. t. 37. f. 28.
Long. corp. 4 lin. lat. 2 lin.
Hab. in viis. Maio.

13. communis.
M. 1. 439. 17. P. 40. t. 2.
Long. corp. 3 lin. lat. 1⅛ lin.
Hab. passim. Æstate toto.

14. cupreus.
M. 1. 439. 18. Mart. t. 35. f. 2. 3.
Long. corp. 6 lin. lat. 2 lin.
Hab. ubique in viis et cretaceis. Jun.

15. æneus.
M. 1. 439. 19.
Long. corp. 5 lin. lat. 1¾ lin.
Hab. cum priore in cretaceis. Jun.

16. latus.
M. 1. 440. 20.
Long. corp. 3 lin. lat. 1 lin.
Hab. in viis. Jun.

17. ferrugineus.
M. 1. 440. 21. P. 39. t. 9.
Long. corp. 4 lin. lat. 1½ lin.
Hab. In Musæis Dom. Hookèr.

18. rufimanus.
M. 1. 441. 22.
Long. corp. 4 lin. lat. 1½ lin.
Hab. In Mus. Dom. Wilkin.

19. rufangulus.
M. 1. 441. 23.
Long. corp. 4½ lin. lat. 1⅛ lin.

Hab. Jul.

23. nigricornis.
M. 1. 441. 24.
Long. corp. 5 lin. lat. 1¼ lin.
Hab. in cretaceis. Aug. f.

21. nigrita. Car. niger, nitidus, elytris striatis, punctis tribus discoidalibus minutissimis.
Payk. 1. 157. 77.
Hab. sub lapidibus. In Mus. D. Wilkin.

22. vernalis. Car. ater nitens, thorace subcanaliculato, elytris striatis striis lævibus, antennis pedibusque piceis.
Panz. Faun. Germ. cum icone.
Long. corp. 4 lin. lat. 1¼ lin.
Hab. In Mus. Dom. W. J. Hooker.

28. eurynitus. Car. ater, elytrorum striis lævibus, antennarum basi pedibusque ferrugineis Panz. Faun. Germ. cum icone.
Long. corp. 3 lin. lat. 1⅛ lin.
Hab. In Musæis Dom. Hooker.

24. tibialis. Car. supra nigro-cærulescens, tibiis antennarum basi rufescentibus, thorace punctis ordinariis duplicibus, scutello acuminato. Payk. Faun. Suec. 1. 168. 89.
Long. corp. 2 lin. lat. 1 lin.
Hab. In Musæis Dom. Hooker.

*** Thorace posticè truncato integro, elytris angustiori.

25. angustior.
M. 1. 442. 26. P. 90. t. 1.

Long. corp. 9½ lin. lat. vix 3 lin.
Hab. Jul.

26. madidus.
M. 1. 443. 27.
Long. corp. 7 lin. lat. 2 lin.
Hab. passim. Aug. f.

27. Terricola.
M. 1. 443. 28.
Long. corp. 7 lin. lat. 2½ lin.
Hab. In Musæo Dom. J. Hookeri.

28. aterrimus.
M. 1. 444. 30.
Long. corp. 5 lin. lat. 1½ lin.
Hab. Semel cepi.

29. rugimarginatus.
M 1. 444. 31.
Long. corp. 5 lin. lat. 1⅓ lin.
Hab.

30. piceus.
M. 1. 444. 32.
Long. corp. 3 lin. lat. 1 lin.
Hab. sub lapidibus. Aug.

31. convexus.
M. 1. 445. 34.
Long. corp. 6 lin. lat. 1½ lin.
Hab. In Mus. D. Wilkin.

32. dimidiatus.
M. 1. 445. 35. P. 39. t. 8. Carabus Kugallanni.
Long. corp. 6 lin. lat. 1½ lin.
Hab. in Pisorum arvis. Aug. f.

33. pilicornis.
M. 1. 446. 36. D. t. 367. f. 1.
Long. corp. $3\frac{1}{2}$ lin. lat. $1\frac{1}{8}$ lin.

34. cærulescens.
M. 1. 446. 37. Mart. t. 35. f. 1.
Long. corp. 4 lin. lat. $1\frac{1}{8}$ lin.
Hab. Pisorum arvis. Aug.

35. inquisitor.
M. 1. 448. 40. Mart. t. 38. f. 42.
Long. corp. 9 lin. lat.
Hab. In Mus. Dom. Gul. J. Hooker.

36. marginatus.
M. 1. 449. 43. Mart. t. 36. f. 19.
Long. corp. 4 lin. lat. $1\frac{1}{8}$ lin.
Hab. sub lapidibus. Jul. f.

37. purpureo-cærulescens.
M. 1. 450. 45.
Long. corp. 5 lin. lat.
Hab. In Musæo Dom. Gul. J. Hooker.

38. azureus.
M. 1. 450. 46. Mart. t. 36. f. 15.
Long. corp. $4\frac{1}{2}$ lin. lat. $1\frac{1}{2}$ lin.
Hab. Semel cepi Julio.

39. spinibarbis.
M. 1. 451. 48. P. 30. t. 16.
Long. corp. 4 lin. lat. $1\frac{1}{2}$ lin.
Hab. Accepi a Dom. Gul. J. Hooker.

40. cyanocephalus.
M. 1. 451. 49. D. t. 86. f. 1, 2, 3.
Long. corp. $3\frac{1}{4}$ lin. lat. $1\frac{1}{8}$ lin.
Hab. in Arvis. Jul.

41. littoralis.
M. 1. 452. 51. P. 35. t. 6. non t. 9, but in Ent. Brit.
Long. corp. 2½ lin. lat. ¾ lin.
Hab. in paludibus maritimis. Jul.

42. immunis.
M. 1. 453. 53.
Long. corp. 2⅛ lin. lat. ⅝ lin.
Hab. Semel cepi Augusto.

43. rufipes.
M. 1. 453. 54.
Long. corp. 1½ lin. lat. ½ lin.
Hab. in ripis apricis. Æstate toto.

44. bipunctatus.
M. 1. 453. 55.
Long. corp. 1⅜ lin. lat. ⅝ lin.
Hab. in apricis infrequenter. Jul.

45. nitidulus.
M. 1. 454. 56.
Long. corp. 3 lin. lat. 1½ lin.
Hab. In Musæo D. Wilkin.

46. pulchellus.
M. 1. 454. 57.
Long. corp. 1½ lin. lat. ½ lin.
Hab. In eodem Musæo.

47. meridianus.
M. 1. 454. 58.
Long. corp. 1½ lin. lat. ½ lin.
Hab. In eodem Musæo.

48. echinatus.
M. 1. 455. 59.

Long. corp. 3 lin. lat. 1 lin.
Hab. Jul.

49. brunneus.
M. 1. 455. 60.
Long. corp. 3 lin. lat. 1⅓ lin.
Hab. In eodem Musæo.

50. punctulatus.
M. 1. 455. 61.
Long. corp. 3½ lin. lat. 1⅓ lin.
Hab. infrequentissime.

51. ruficollis.
M. 1. 456. 62.
Long. corp. 3 lin. lat. 1⅓ lin.
Hab. In Musæo Dom. J. Hooker.

52. fulvus.
M. 1. 456. 64.
Long. corp. 2 lin. lat. ⅔ lin.
Hab. in Ulicibus. Maio.

53. apricarius. Car. subtus flavus, supra fusco-orichalceus, thoracis punctis ordinariis bilobis, elytris crenato-striatis. Payk. Faun. Suec. 1. 162. 82.
Long. corp. 3 lin. lat. 1 lin.
Hab. Samel copi Julio.

54. sordidus.
M. 1. 457. 68.
Long. corp. 3½ lin. lat 1⅓ lin.
Hab. sub lapidibus.

55. foraminulosus.
M. 1. 457. 69.
Long. corp. 4 lin. lat. ⅔ lin.

Hab. in Arvis infrequenter. Aug.

56. rufescens.
M. 1. 458. 71.
Long. corp. 3 lin. lat. ¼ lin.
Hab.

57. 4-maculatus.
M. 1. 459. 72. Mart. t. 38. f. 47.
Long. corp. 2½ lin. lat. ½ lin.
Hab. in locis ubi aqua per hyemem constiterit. Maio. Hyemat sub Cortice Quercûs, Hedera Helice.

58. 4-guttatus.
M. 1. 459. 73. Mart. t. 38. f. 37.
Long. corp. 2 lin. lat. ½ lin.
Hab. cum priore. Jun.

59. puncto-maculatus.
M. 1. 460. 74.
Long. corp. 1½ lin. lat. ⅓ lin.
Hab. in locis similibus cum 4-guttato.

60. chalceus.
M. 1. 460. 75.
Long. corp. 3 lin. lat. ¼ lin.
Hab. Semel captus a me.

61. aquaticus.
M. 1. 461. 77. P. 38. t. 10.
Long. corp. 1½ lin. lat. ½ lin.
Hab. Accepi ab amicissimo meo J. Hooker.

62. nigriceps.
M. 1. 461. 79.
Long. corp. 1½ lin. lat. vix ¼ lin.

Hab. in Ulicibus. Maio.

63. atricapillus.
M. 1. 462. 83. Mart. t. 38. f. 36.
Long. corp. 2½ lin. lat. ¼ lin.
Hab. in Ulicibus frequens. Æstate toto.

64. truncatellus.
M. 1. 464. 86.
Long. corp. 1¼ lin. lat. ⅛ lin.
Hab. in apricis. Jul.

65. bipustulatus.
M. 1. 464. 88. P. 16. t. 3.
Long. corp. 3 lin. lat. ¼ lin.
Hab. sub lapidibus. Cortice.

66. macer.
M. 1. 466. 92.
Long. corp. 5½ lin. lat. 2 lin.
Hab. In Musæo Dom. J. Hooker.

67. unifasciatus.
M. 1. 466. 93. P. 38. t. 7.
Long. corp. 2 lin. lat. ⅛ lin.
Hab. Semel captus a meo Fratre.

68. multipunctatus.
M. 1. 467. 94. P. 11. t. 5.
Long. corp. 6 lin. lat. 2 lin.
Hab. in paludibus, Bardolph. Fen. Jul.

69. ustulatus. Car. thorace nigricante, elytris obscuris ferrugineo bifasciatis.
L. 2. 673. 38.
Fab. Eleut. 2. 673. 38. P. 40. t. 7.
Long. corp. 2½ lin. lat. ¼ lin.
Hab. in locis humidis. Jul.

70. **strenuus.** Car. ater, elytris punctato-striatis, pedibus testaceis. Panz. Faun. Germ. cum icone.
Long. corp. 3½ lin. lat. 1⅛ lin.
Hab.

**** Thorace posticè truncato integro, elytris angustiori, sub-elongato, attenuato.

71. viridanus.
M. 1. 467. 95. Mart. t. 37. f. 25.
Long. corp. 3 lin. lat. ¼ lin.
Hab. sub muscis, lapidibus, corticibus. Anno toto.

72. angustatus. Car. thorace cyaneo, elytris testaceis, apice nigris. Dom. J. Hooker.
L. 2. 620. 6. Attelabus melanurus.
Fab. Eleut. 1. 228. 2. Odacantha melanura.
Payk. 1. 169. 1. Odacantha melanura.
Panz. Faun. Germ. cum icone; Cicindela angustata.
Sowerby's Brit. Misc. t. 36. Carabus angustatus.
Long. corp. 3 lin. lat. 1 lin.
Hab. Captus a Dom. J. Hooker; ac etiam verberando Sparganium a Dom. Gul. Skrimshire.

It may not be improper here to correct an error in the former pages of our Transactions. Our most esteemed President, trusting to memory, has by a very unusual lapse noticed Carabus chrysostomos

as taken in Norfolk; whereas it was Carabus angustatus, which he had casually seen in Mr. J. Hooker's Cabinet. The six last lines therefore of Ent. Trans. page 61, are misplaced, and should have been inserted between lines 7 and 8 of page 59.

***** Thorace postice rotundato.

73. rostratus.
M. 1. 470. 103. Mart. t. 37. f. 27.
Long. corp. 8 lin. lat. 2½ lin.
Hab. in viis, infrequenter. Aug.

74. Crux major.
M. 1. 470. 104. Mart. t. 38. f. 49.
Long. corp. 4 lin. lat. 1¼ lin.
Hab. infrequentissime.

****** Thorace remoto.

75. cephalotes.
M. 1. 472. 107. Mart. t. 38. f. 41.
Long. corp. 10½ lin. lat. 2½ lin.
Hab. Accepi a Rev. Dom. T. Skrimshire.

76. distans.
M. 1. 472. 108. P. 43. t. 11. Scarites arenarius.
Long. corp. 3 lin lat. ½ lin.
Hab.

77. remotus.
M. 1. 473. 109. P. 5. t. 1.
Long. corp. 1¼ lin. lat. ¼ lin.
Hab. sub plantis in viminosis nuper satis. Jul.

42. TENEBRIO. MEAL WORM.

The Larvæ of this Genus are sometimes met with in rice, meal, and bread: but I never have seen any under weeds, or refuse of gardens, an Habitat mentioned by Yeats.

1. molitor.
M. 1. 474. 1. Mart. t. 39. f. 2.
Long. corp. 8 lin. lat. 2⅓ lin.
Hab. in domibus.
2. arenosus.
M. 1. 475. 4.
Long. corp. 3⅓ lin. lat. 1⅓ lin.
Hab. in collibus arenosis juxta mare. Maio.
3. quisquilius.
M. 1. 475. 5.
Long. corp. 3 lin. lat. 1⅓ lin.
Hab. in Oryza. Dom. J. Hooker, in cujus Musæo est.
4. pallens.
M. 1. 477. 9. Mart. t. 39. f. 3.
Long. corp. 2 lin. lat. 1 lin.
Hab. In Mus. D. Gul. Hooker.
5. coccineus.
M. 1. 477. 10. Mart. t. 16. f. 38.

Long. corp. 2¼ lin. lat. 1⅓ lin.
Hab. sub cortice Salicis. Captus a Dom. T. Skrimshire.

6. Bovistæ.
M. 1. 478. 11. P. 8. t. 4. Endomychus Bovistæ.
Long. corp. 2 lin. lat. 1 lin.
Hab. in Lycoperdo Bovistâ maturo. Sept. f. et sæpe per hyemem.

43. BLAPS. STINKING BEETLE.

1. mortisaga.
M. 1. 479. 1. P. 3. t. 3.
Long. corp. 10½ lin. lat. 4 lin.
Hab. in Domibus. Jun.

Accounted by the vulgar to presage a death in the house, where it is discovered.

2. violacea.
M. 1. 480. 3.
Long. corp. 10 lin. lat.
Hab. sub cortice Quercuum veternarum. Marsham. Captus a Dom. Gul. J. Hooker.

3. Spartii.
M. 1. 481. 5.
Long. corp. 4 lin. lat. 2 lin.
Hab. Semel cepi.

44. MELOE. OIL BEETLE.

1. proscarabæus.
M. 1. 481. 1. D. t. 43.

Long. corp. maris 10 lin. lat. 3 lin.
———— fœm. 18 lin. lat. 4½ lin.
Hab. in ripis apricis. Maio.
Sæpe captus in Copulatione, sed nunquam Meloe tecta. Don. cum proscarabæo.

2. violaceus.
M. 1. 482. 2.
Long. corp. maris 10 lin. lat. 3 lin.
———— fœm. 14 lin. lat. 3¾ lin.
Hab. in locis similibus cum priore. Jun.

3. similis.
M. 1. 482. 3.
Long. corp. 10 lin. lat. 3 lin.
Hab. in graminosis. Jun.

4 tecta. Meloe elytris abdominis longitudine.
P. 10. t. 14. D. t. 240.
Long. corp. 5 lin. lat. 1½ lin.
Hab. in ripis apricis. Maio. infrequenter.
In certo anno capti multi a me in copulatione ejusdem staturæ.

45. LYTTA. BLISTER BEETLE.

1. vesicatoria.
M. 1. 484. 1. Mart. t. 39. f. 2.
Long. corp.
Hab. Captus semel a D. Gul. Hooker et semel a D. T. Skrimshire.

2. fusca.
M. 1. 486. 4. P. 23. t. 4.
Long. corp. 1¼ lin. lat. ¼ lin.

Hab. in Trifolio. Aug. i.

3. monoceros.
M. 1. 487. 8. D. t. 182.
Long. corp. 2 lin. lat. $\frac{1}{8}$ lin.
Hab. in Spartio Scopario. D. Hooker. In Senecione.

46. MORDELLA.

* Aculeatæ.

1. aculeata.
M. 1. 488. 1.
Long. corp. 2 lin. lat. $\frac{1}{2}$ lin.
Hab. in Floribus Sorbi Aucupariæ. Maio.

** Inermes.

2. paradoxa.
M. 1. 491. 9.
Long. corp. 6 lin. lat. 2 lin.
Hab. Captus in Populo a Dom. J. Hooker. Sept.

3. frontalis.
M. 1. 491. 10.
Long. corp. 2 lin. lat. $\frac{1}{2}$ lin.
Hab. in floribus Sorbi Aucupariæ. Maio.

4. ruficollis.
M. 1. 491. 11.
Long. corp. $1\frac{1}{4}$ lin. lat. $\frac{1}{4}$ lin.
Hab. in Ulicibus. Jun.

5. biguttata.
   M. 1. 492. 12.
   Long. corp. 1 lin. lat. ¼ lin.
   Hab. in Ulice. Aprili.
6. obscura.
   M. 1. 492. 14.
   Long. corp. 1½ lin. lat. ¼ lin.
   Hab. in Ulicibus. Martio.
7. testacea.
   M. 1. 493. 16.
   Long. corp. 1 lin. lat. ¼ lin.
   Hab. Jun.
8. silphoides.
   M. 1. 493. 19.
   Long. corp. 1 lin. lat. ½ lin.
   Hab. sub lapidibus. Maio.
9. picea.
   M. 1. 494. 21.
   Long. corp. 2¼ lin. lat. ⅞ lin.
   Hab. Maio.
10. clavicornis.
   M. 1. 494. 22.
   Long. corp. 2 lin. lat. 1 lin.
   Hab.

47. STAPHILINUS. ROVE BEETLE.

The Larvæ of some species are met with in putrid carcases; others are said to live in humid places under the ground.

* Thoracę ovato, posticè rotundato, capite paulò angustiori sive subæquali.

1. olens.
   M. 1. 497. 2. Mart. t. 41. f. 21.
   Long. corp. 1 unc. lat. $2\frac{1}{3}$ lin.
   Hab. sub lapidibus. Aug.
2. similis.
   M. 1. 497. 3.
   Long. corp. 6 lin. lat. $1\frac{1}{2}$ lin.
   Hab. sub lapidibus. Maio.
3. maxillosus.
   M. 1. 498. 5. D. t. 96. f. 3.
   Long. corp. 10 lin. lat. 3 lin.
   Hab. in Cadaveribus. Maio—Julio.
4. erythropterus.
   M. 1. 499. 6. D. t. 308.
   Long. corp. 9 lin. lat. $2\frac{1}{2}$ lin.
   Hab. sub plantis. Jun.
5. murinus.
   M. 1. 499. 8. Mart. t. 41. f. 22.
   Long. corp. 6 lin. lat. $1\frac{1}{2}$ lin.
   Hab. in Avibus putridis. Maio.
6. hybridus.
   M. 1. 500. 9.
   Long. corp. 8 lin. lat. 2 lin.
   Hab. Accepi a Dom. Wilkin.
7. cyaneus.
   M. 1. 501. 11. P. 27. t. 3.
   Long. corp. $8\frac{1}{2}$ lin. lat. 2 lin.

Hab. in cretaceis. Jul. i.

8. punctulatus.
M. 1. 501. 27. Mart. t. 42. f. 27.
Long. corp. 6 lin. lat. 1½ lin.
Hab. In Musæis Dom. Hooker.

9. brunnipes.
M. 1. 502. 13. Mart. t. 41. f. 15.
Long. corp. 6 lin. lat. 1½ lin.
Hab. In Musæo amici mei Rev. T. Skrimshire.

10. rufus.
M. 1. 502. 14. Mart. t. 41. f. 25.
Long. corp. 4 lin. lat. 1 lin.
Hab.

11. fulgidus.
M. 1. 503. 16.
Long. corp. 3¼ lin. lat. ¼ lin.
Hab. sub plantis in locis humidis. Aug.

12. riparius.
M. 1. 503. 17. D. t. 167.
Long. corp. 4 lin. lat. ¼ lin.
Hab. in locis, ubi aqua constiterit.

13. politus.
M. 1. 504. 18. P. 27. t. 7.
Long. corp. 4 lin. lat. 1 lin.
Hab. ubique sub lapidibus, muscis. Jun.

14. dilatatus.
M. 1. 504. 19.
Long. corp. 4 lin. lat. ⅓ lin.
Hab. sub lapidibus, muscis. Jun.

15. simplex.

M. 1. 505. 20.
Long. corp. 2½ lin. lat. ½ lin.
Hab. sub lapidibus. Aprili.

16. marginellus.
M. 1. 505. 21.
Long. corp. 4 lin. lat. ⅓ lin.
Hab. sub lapidibus. Aprili.

17. piceus.
M. 1. 506. 23. P. 27. t. 14.
Long. corp. 2 lin. lat. ¼ lin.
Hab. in stercore equino. Æst. toto.

18. rugosus.
M. 1. 506. 24.
Long. corp. 2½ lin. lat. ½ lin.
Hab. In Musæis Dom. Hooker.

19. canaliculatus.
M. 1. 507. 25. P. 27. t. 13.
Long. corp. 2 lin. lat. ¼ lin.
Hab. in Boleto. Jul. f.

20. trilobus.
M. 1. 507. 26.
Long. corp. 1½ lin. lat. ⅓ lin.
Hab. in stercore bovino.

21. sulcatus.
M. 1. 507. 27.
Long. corp. 1 lin. lat. vix. ⅓ lin.
Hab. Accepi a Dom. J. Hooker.

22. morsitans.
M. 1. 508. 28.
Long. corp. 2 lin. lat. ⅓ lin.
Hab. Accepi a Dom. Wilkin.

23. sericeus.
M. 1. 508. 29.
Long. corp. 7 lin. lat. 1 lin.
Hab. sub lapidibus. Maio.

24. suturalis.
M. 1. 509. 31.
Long. corp. 2½ lin. lat. ½ lin.
Hab. In Musæis Dom. Hooker.

25. mesomelinus.
M. 1. 510. 32.
Long. corp. 3. lin. lat. ⅓ lin.
Hab. In Musæo Dom. Wilkin.

26. concinnus.
M. 1. 510. 34.
Long. corp. 2 lin. lat. ½ lin.
Hab. In Musæis Dom. Hooker.

27. minutus.
M. 1. 511. 36.
Long. corp. vix. 1 lin. lat. ⅛ lin.
Hab. In Mus. Dom. J. Hooker.

28. æneus.
M. 1. 511. 37.
Long. corp. 4 lin. lat. ⅓ lin.
Hab. in stercore, et sub lapidibus. Jul.

29. marginatus.
M. 1. 512. 40.
Long. corp. 3½ lin. lat. ⅓ lin.
Hab.

30. semiobscurus.
M. 1. 512. 41.

Long. corp. 3 lin. lat. $\frac{1}{4}$ lin.
Hab. Cepi unum sub lapide. Martio.

31. rufitarsis.
M. 1. 512. 42.
Long. corp. 3 lin. lat. $\frac{1}{4}$ lin.
Hab. in putridis Avibus. Jun. f.

32. rivularis.
M. 1. 513. 43. P. 27. t. 15.
Long. corp. 2 lin. lat. $\frac{1}{4}$ lin.
Hab. in Boletis, putridis Brassicis, &c. Æst. toto.

33. nigriceps.
M. 1. 515. 51.
Long. corp. 2 lin. lat. $\frac{1}{4}$ lin.
Hab. Semel cepi.

34. splendens. Staph. capite thoraceque lævissimis, atris; elytris æneis, nitidulis.
Fab. Eleut. 2. 594. 21.
Long. corp. 5 lin. lat. $1\frac{1}{4}$ lin.
Hab. sub Muscis. et in stercore. Maio.

35. armatus. Staph. ater, vertice spina gemina porrecta, thoracis antico in cornu acutum protenso, elytris anoque rufis, pedibus piceis.
Panz. Faun. Germ. cum icone.
Ent. Trans. 1. pag. 97.
Long. corp. 3 lin. lat. $\frac{1}{2}$ lin.
Hab. Captus in humido loco a Rev. T. Skrimshire. Jul. m.
Alter sexus inermis?

** Thorace oblongo-elongato, capite petiolato angustiori.

36. elongatus.
M. 1. 515. 52. Mart. t. 40. f. 1.
Long. corp. 4 lin. lat. $\frac{1}{3}$ lin.
Hab. Accepi a Dom. Wilkin.

37. dentatus.
M. 1. 515. 53.
Long. corp. 4 lin. lat. $\frac{1}{3}$ lin.
Hab. In Mus. Dom. J. Hooker.

38. linearis.
M. 1. 516. 54.
Long. corp. 3 lin. lat. $\frac{1}{2}$ lin.
Hab. sub plantis.

39. cruentatus.
M. 1. 516. 55.
Long. corp. $5\frac{1}{2}$ lin. lat. $\frac{7}{8}$ lin.
Hab. in stercore equino infrequenter.

40. affinis.
M. 1. 517. 57.
Long. corp. 4 lin. lat. $\frac{1}{3}$ lin.
Hab. sub Muscis. Æst. toto.

41. quadratus.
M. 1. 517. 58.
Long. corp. 3 lin. lat. $\frac{1}{4}$ lin.
Hab. In Musæis D. Hooker.

*** Thorace posticè dilatato, capite sessili latiore, abdomine conico.

42. subterraneus.

M. 1. 518. 59.
Long. corp. 2½ lin. lat. ⅞ lin.
Hab. in Avibus putridis.

43. rufipes.
M. 1. 518. 60.
Long. corp. 2½ lin. lat. ⅞ lin.
Hab.

44. cinctus.
M. 1. 519. 60.
Long. corp. 3. lin. lat. 1 lin.
Hab. in Boletis.

45. lævigatus.
M. 1. 519. 62.
Long. corp. 2 lin. lat. ½ lin.
Hab. sub Muscis. Martio.

46. chrysomelinus.
M. 1. 519. 63. Mart. t. 42. f. 37.
Long. corp. 1½ lin. lat. ⅜ lin.
Hab. in Cratægi sepibus. Jun. f.

47. nitidulus.
M. 1. 520. 64.
Long. corp. 1⅓ lin. lat. ¼ lin.
Hab. sub Muscis. Jul.

48. obtusus.
M. 1. 520. 65.
Long. corp. 1½ lin. lat. ¼ lin.
Hab. sub. Muscis. Æst. toto.

49. analis.
M. 1. 522. 70.
Long. corp. 2½ lin. lat. 1 lin.
Hab. In Mus. Dom. G. J. Hooker.

50. lunulatus.
M. 1. 523. 72. P. 22. t. 15.
Long. corp. 3 lin. lat. $\frac{1}{3}$ lin.
Hab. sub Muscis. Martio.

51. latus.
M. 1. 524. 76.
Long. corp. 3 lin. lat. 1 lin.
Hab. sub lapidibus infrequentissimè. Aprili.

52. bimaculatus.
M. 1. 525. 78.
Long. corp. $2\frac{1}{2}$ lin. lat. $\frac{1}{2}$ lin.
Hab. sub Muscis. Jul. i.

53. Hypnorum.
M. 1. 525. 79.
Long. corp. 2 lin. lat. $\frac{1}{3}$ lin.

**** Cicindeloidei. Scabri, thorace teretiusculo, capite angustiori, oculis distantibus prominulis.

54. biguttatus.
M. 1. 526. 31. P. 11. t. 17.
Long. corp. 3 lin. lat. $\frac{1}{4}$ lin.
Hab. Hyemat sub Muscis

55. bipustulatus.
M. 1. 527. 32. P. 27. t. 10.
Long. corp. 3 lin. lat. $\frac{1}{4}$ lin.
Hab. in locis humidis. Jul.

56. angustatus.

M. 1. 527. 83. P. 11. t. 18.
Long. corp. 1½ lin. lat. ⅓ lin.
Hab. in stercore.

57. clavicornis.
M. 1. 527. 84. P. 27. t. 11.
Long. corp. 2½ lin. lat. ⅓ lin.
Hab. in locis humidis. Jul.

58. orbiculatus.
M. 1. 528. 85. P. 43. t. 21.
Long. corp. 2 lin. lat. ⅓ lin.
Hab. sub Muscis. Anno toto.

59. melanopus.
M. 1. 528. 86.
Long. corp. 1½ lin. lat. ⅓ lin.
Hab. sub Muscis. Aprili.

60. immunis.
M. 1. 528. 87.
Long. corp. 1 lin. lat. ⅓ lin.
Hab. Semel cepi.

VI. *Observations on three species of Lepidoptera, figured in the "British Insects" of E. Donovan. By* A. H. Haworth, *F. E. S. &c. Read 5th April,* 1808.

As the removal of errors in any science is considered as an improvement, the following remarks are extracted from an extensive set of minutes, "On the Natural History of British Insects", and which concern most of the pages of that work.

On the 361st plate, which *commences* the eleventh volume of that work, and is the *first* of its continuation; we find very well represented Sphinx quinquemaculatus of Lepidoptera Britannica, by the name of Sphinx Carolina. And the account which accompanies it, asserts that those two Insects *are the same*. Nevertheless, they are sufficiently distinct. And their differences were first pointed out to me by that keen eyed Aurelian, Captain Lindegren of the Nova Scotia Fencibles. Their essential distinctions are as follow.

Sphinx *Carolina*. Alis fusco cinereoque variis, posticis fasciis 3-4 fuscis, exterioribus argute dentatis, abdomine maculis luteis 10-12.

Sphinx *quinquemaculatus*. Alis cinereo fuscoque nebulosis; posticis fasciis 3-4 fuscis, extimâ integrâ abdomine maculis luteis 10.

Obs. Præcedenti undique omnino pallidior. Alæ superiores minus, atque diversim fusco undulatæ.

Hujus species exemplaria 4 tantum vidi: at præcedentis permulta.

On the 46th plate "Phalæna Chi" is delineated; there is a reference to Prod Lep. Brit. and the account of the plate informs us, that it is the only specimen of that species hitherto taken in Britain—that it was found on the 17th day of August in Wales—that English Entomologists have hitherto mistaken Noctua Aceris for it—and that its time of appearance in Prod. Lep. Brit. is erroneously made "July" instead of the 7th of September, "and that on the authority of the individual specimen above mentioned." Nevertheless this Insect is far from unique. For I had seen above a dozen English ones in various London Cabinets, and even described them, (without knowing what they were) before I beheld Mr. Donovan's specimen: and have since possessed, or seen, about a dozen more of English origin. Noctua Chi is not in the least danger of being confounded with Noctua Aceris, by any but a mere Tyro in our science, being more closely allied to Noctua flavocincta, which is also figured by Mr. Donovan, and to Noctua Lambda of Fab. which indeed it remarkably resembles.

On plate 412 is depicted a Noctua, as a new one, by the name of flexuosa, which was taken, as the late Mr. Drury assured me, by himself in Essex; and is the Noctua circumflexina of Prod. Lep. Brit. The account of the plate, erroneously calling this "The Yorkshire Y Moth," informs us that it is Mr. Drury's specimen which is delineated, "that it has not hi-
"therto been described by any writer. It was taken
"in Yorkshire, and has been denominated amoṓg
"English collectors *to whom the circumstance was*
"*known*, the Yorkshire Y Moth."

This is however, erroneous; for the real Yorkshire Y Moth (Noctua interrogationis of Lin. but not of Hübner's Schmet.) is a very distinct species, and has long existed in several London Cabinets; and was even in Drury's, which Mr. Donovan purchased. I also possess it, and have seen at least a dozen English specimens.

The account of this plate adds, in "some respects this species is not unlike the common Y Moth, Pha-"læna interrogationis."

By these words, does Mr. D. mean Noctua gamma, which *is* the *common* Y. Moth?

The account continues "our Noctua flexuosa is "very different from *either of the analogous species,* "*except that above mentioned.*"

We are utterly at a loss to know what "analogous species" are here intended, except they are Noctua Iota, the Gold Y Moth; and Noctua gamma, the common silver Y, the latter of which is by no means likely, because Mr. D. but a few lines before, calls the common silver Y, Noctua interrogationis!

VII. *A short Account of some rare British Moths, (with descriptions from Lepidoptera Britannica now in the press).* By J. HATCHETT, *F. L. S. and F. E. S. Read 3rd Jan.* 1809.

With Two Plates.

1. *angulago.* NOCTUA. (The angle-striped Sallow) alis aureis, strigâ unangulatâ ante, alterâque pone stigmata ordinaria subferrugineis. *Lep. Brit. inædit.*

TAB. NOST. 5 fig. sup.

Noctua fulvago. Hüb. Schmet. Noct. 41. 198. & 199. nec. Lin.

OBS. I took this in a wood in Kent, the beginning of August last. It was never, that I know of, found in Britain till the present year.

2. *rufa.* NOCTUA. (The red Chesnut) alis rufis, costâ usque ad medium pallidiore, strigis quatuor undulatis stigmatibusque ordinariis, obsoletiusculis: posticis fusco-rufescentibus. *Lep. Brit. inædit.*

TAB. NOST. 6. fig. sup.

OBS. This is presumed to be unique, it was taken near London about the end of March last amongst Nettles.

3. *V-nigraria.* GEOMETRA. (The slender-bodied Black V) alis cinereo-nigris, literâ V medio costam versus, atrâ. *Lep. Brit. inædit.*

E.P. Neale del.,Sc.

J.P.Neale . del.Sc

TAB. NOST. 7. f. 3.

OBS. This is an English specimen, and is presumed to be unique, I caught it in the month of July.

4. *variata.* PHALAENA. (The grey Carpet) alis cinereo-fuscis, faciis duabus strigâque fuscis. *Lep. Brit. inædit. Geometra variata. Hüb. Schmet. Geom.* 57. 293.

TAB. NOST. 7. 1.

OBS. I caught this by the side of a wood in Kent, in July last. As a British specimen it is presumed to be unique; unless "The shaded Broad-bar" of Harris's Aurelian should be the same, which my friend Mr. Haworth suspects may be the case. Some have thought it to be a variety of P. fluctuata, but if they had likened it to the Juniperata of Linnæus, (a foreign species) they would have been much nearer the truth.

5. *quadrimaculata.* PHALAENA. (The pinion-spotted Yellow) alis sulphureis; costâ basi nigro irroratâ maculisque quatuor æquidistantibus atris. *Lep. Brit. inædit.*

TAB. NOST. 7. 2.

OBS. I caught this in a woody situation in the month of April. It is also presumed to be unique.

VIII. *An Account of a new Scarabæus, discovered by Mr.* NEALE, *and Observations on two other rare Insects. By* G. B. SOWERBY, *F. E. S. Read 7th February*, 1809.

With a Plate.

SCARABÆUS depressus.

NIGER, elytris rufis, striatis. Long. corp. lin. 3. *Aphodius depressus.* Fab. Ent. Syst.

DESCR. Depressus, niger, Capite lævi. Thorace mutico, obsoletissime punctulato. Elytris rufis, striatis, striis punctulatis. Palpis, tarsisque ferrugineis.

OBS. At first sight, this Insect greatly resembles Scar. fimetarius, but may easily be distinguished from that by its smooth head, destitute of the three tubercles which are seen on the head of that Insect; by its much flatter appearance and by its wanting the red mark on each anterior angle of the thorax. The only specimen which has been taken in England was dug at the root of a tree in Richmond Park, during the winter, by Mr. J. P. Neale, F. E. S. who has obligingly enriched my father's Cabinet with it.

CARABUS arvensis.

DESCRIBED in page 93. Instead of "*punctis excavatis triplici serie,*" in that description however, I

VI. *Description of a new species of Cassida, found near Mr Newman, and Observations on the Genus Cassida. By C. P. Stephens, F. L. S. &c. &c. &c.*

[Read February 19, 1828.]

With a Plate.

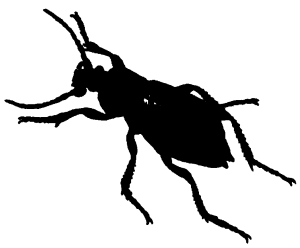
Scarce and little expressus.

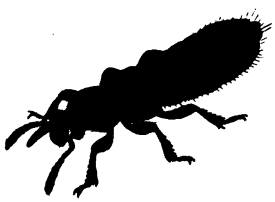
Long, corp. lin. 3. Lat. corp. lin. 2. Color testaceus, thorax et elytra pallide flavi. Thorax punctatus, obsoletissime transversim strigosus. Elytra tuberculata, tuberculis subseriatis. Pedes, tarsisque fuscis.

Obs. In habit and sight, this insect greatly resembles Scarfoneusis, but may easily be distinguished from it by its smooth head, destitute of the three tubercles which are seen on the front of that insect, by its much duller appearance, and by its glaucous legs and tarsi. Such an union of characters is unique. The only specimen which I have seen was dug up at the root of a tree in Richmond Park, during the winter, by Mr J. P. Neale, F. L. S. who has obligingly communicated my knowledge of it.

Canadensis.

Described in page [illegible] vol. of "*Annales des sciences naturelles troisième série*," in which description however





should use the words, "*lineis elevatis interruptis tribus,*" which certainly describe the three lines of raised oblong marks, much more expressively.

STAPHILINUS tricornis.

THIS is also described in page 97, but under the name of St. armatus: the name tricornis, however, having been before given to it, I should prefer continuing, both for that reason and because it is more expressive. There is an uncoloured figure of the male in Feussly's Archives. The head of the female has the spines, exactly resembling that of the male, but the thorax is destitute of the long spine.

IX. *An Account of two species of Clytra.* By W. E. Leach, *F. E. S. read 7th February,* 1809.

With a Plate.

Tab. Nost. Fig. superior.

Clytra longipes.

C. nigra, obscura, elytris pallidis; maculis tribus nigris, pedibus anticis elongatis.

Fab. supl. 1.

Clytra longipes Laichart. 1. 166. 1.

Cryptocephalus longipes.

Fab. Syst. Ent. 105. 1. Sp. Ins. 1. 137. 1 Mant. Ins. 1. 137. 1. Ent. Syst. 1. b. 52. 1 Gmelin. Syst. Nat. 1700. 1.

Habitat in Angliæ Germaniæ, Corylo.

Capta prope Sidmouth in Com. Devon. Maio exeunte. D. Leach.

Long. corp. 5½ lin.

Mus. D. Haworth, Milne, Leach.

Antennæ, breves serratæ nigræ articulo secundo basique tertii testaceis. Thorax niger subpubescens. Elytra pallida, sub lente punctulata, punctis tribus nigris, unico ad basin et pari in medio. Pedes nigri antici in altero sexu elongati.

I found this insect, by the side of the road between Exeter and Sidmouth. I believe that it has not before been noticed as a British Insect.

[illegible] *of Cintra.* *By* W. [illegible]

[illegible] 1809

[illegible]

[illegible] New [illegible]

Clytra [illegible]

[illegible], [illegible] elytris [illegible] maculis [illegible] [illegible], [illegible] elongatis.

[illegible]

[illegible] Laichart. [illegible]

Crypto [illegible]

Fab. Syst [illegible] Ins. 1. [illegible]

Mant [illegible] 1. 137. [illegible] Syst. [illegible]

Gmelin [illegible] N[illegible]. 1700. 1

Habitat [illegible] Corylo.

[illegible] Devon. Maio [illegible]

[illegible]

[illegible]

[illegible] Leach.

[illegible] subpubescens. [illegible] lata, punctis [illegible] nigris [illegible] basin et [illegible] medio, [illegible] elongati.

I found this insect [illegible] the side of the road between [illegible] and [illegible] that it has not before been [illegible]

TAB. NOST. Fig. media.

This insect was among the British Chrysomelæ in the collection of Dr. Lettsom (now in my possession), under the specific name of longimana. Except in the length of the anterior legs it agrees perfectly with C. longipes, and I have no doubt of its being the other sex of that insect, and probably a British specimen.

TAB. NOST. Fig. inferior.

Clytra 3-punctata.

C. nigro cyanea, elytris testaceis, punctis tribus nigris, pedibus anticis elongatis.

Fab. sup. 2.

Habitat in Italia,

Mus. D. Sowerby.

Antennæ breves, serraæt nigræ. Thorax subpubescens cyaneus. Elytra testacea punctulata, punctis tribus nigris 1-2. Pedes antici in altero sexu elongati. Tarsorum articulus primus quam in C. longipede brevior.

This has never been taken in England. I have given a figure to show the difference of the two species.

All the figures in the plate are magnified.

Extracts from the Minute Book of the Entomological Society, comprising a List, chronologically digested, of rare Insects, &c. exhibited from time to time before, or announced as British to, the Society; to which are added their specific characters, &c.

1. *thoracicus.* SCARITES, æneus, thorace subgloboso, elytris punctato-striatis. *Fab. Syst. Eleut.* 1. 125. 16.

Præcedente (Scarites arenarius Fab.) minor, et thoracis figura globosa omnino distinctus. *Fab. l. c.*

ANNOUNCED June 1806, having been recently presented to the Entomological Cabinet by W. Spence, F. L. S.

2. *Oniscoides.* JULUS.

ANNOUNCED with the last; and recently presented to the E. C. by H. E. Strickland Esq. who took it in the East Riding of Yorkshire.

3. *hirticollis.* PSELAPHUS. of Paykull.

ANNOUNCED Sept. 1806, having been recently presented to the E. C. by J. Hooker, F. E. S.

4. *fulgida.* CHRYSOMELA, viridi-ænea, elytris punctatis, auro-nitidulis.

Fab. Syst. Eleut. 1. 43. 59.

Statura C. graminis. Caput viridi æneum, antennis

nigris. Thorax viridi-æneus, vix punctatus nitidus. Elytra punctata, ænea, auro colore, nitidula. Pedes ænei. *Fab. l. c.*

EXHIBITED Oct. 1806, by R. Scales, V. P. E. S. having been recently taken by Mr. P. W. Watson, near the river Ouse in Yorkshire.

5. *scanicus.* DERMESTES, fuscus, thorace subtestaceo.

Linn. Faun. Suec. 437.

DESCR. Magnitudo fere pediculi. Corpus totum fuscum. Antennæ clavatæ, perfoliatæ. Thorax et elytrorum basis obscure testacea. *Linn. l. c.*

ANNOUNCED Dec. 1806, and recently presented to the E. C. by J. Hooker.

6. *flavipes.* SPHÆRIDIUM, atrum, elytris apice pedibusque rufis.

Fab. Syst. Eleut. 1. 97. 23.

ANNOUNCED with the last, from the same gentleman.

7. *agilis.* DYTISCUS, niger ore thorace, elytrorum margine pedibusque ferrugineis.

Panz. Faun. Ent. Germ. cum icone.

Fab. Syst. Eleut. 1. 266. 44.

Longitudine corporis 5 lin.

EXHIBITED by A. H. Haworth, P. E. S. Oct. 1807, as recently taken by himself in Norfolk.

8. *vitreus.* DYTISCUS, oblongo-ovatus, elytris nigro-

subæneis, punctato-striatis, interstitiis lævibus; maculis duabus flavo-fenestratis.

Payk. Faun. Suec. 218. 27.

Longitudine corporis 4 lin.

EXHIBITED with the last, as recently taken by the same gentleman, in Norfolk.

9. *brevis.* ELOPHORUS, niger thorace angusto inæquali, elytris carinulis quatuor, punctis duplici ordine interjectis, abdomine oblongo-ovato.

Payk. Faun. Suec. 142. 3.

Exhibited by R. Scales, October, 1807.

10. *sycophanta.* CALOSOMA, alatum violaceum nitens, elytris striatis aureis.

Fab. Syst. Eleut. 212. 5.

Carabus sycophanta. Linn. Syst. 2. 670. 12.

Larva victitat Phalænarum larvis. *Fab. l. c.*

THIS large and splendid Insect was announced October 1807, as having been taken in the summer of 1806, in Ireland, and also in Norfolk.

11. *rivulorum.* HYDROMETRA, nigra albo punctata abdomine fulvo.

Fab. Syst. Rhyng. 259. 8.

Gerris rivulorum. Fab. Ent. Syst. 4. 189. 5.

ANNOUNCED December 1807, as recently presented to the E. C. by the Rev. J. Burrell. F. E. S.

12. *Juncorum.* PSYLLA, of Latreille.

Was exhibited June 1808, by the President, and presented to the E. C. by Mr. W. P. Watson, of Hull.

13. *dubius.* TROX, ater opacus gibbus elytris subacuminatis, punctis obsoletis per strias digestis.

Panz. Faun. Ins. Germ. cum icone.

Long. Corp. ¼ lin.

OBS. One specimen of this extremely rare and singular Insect, was exhibited by A. H. Haworth, August the 2d, 1808: it was fished up the week before in a rivulet near Holt, Norfolk, by a very young collector, his son, B. Haworth. This Insect probably belongs to the genus Elmis of Latreille; and assuredly but ill associates with Trox. Several other species of Elmis were taken in plenty near it, at the same time: as were likewise many specimens of Dytiscus duodecim-pustulatus, and Dytiscus elevatus.

OBS. Sept. 1808. C. rugulosus of Ent. Brit. also Carabus glabratus, and likewise Elater pectinicornis, E. cupreus, and E. calybeus, of Brit. Miscel. and Curculio paraplecticus (of Panzer, not of Linnæus) in plenty, all recently caught in Yorkshire, except the last, were exhibited by G. B. Sowerby, F. E. S.

14. *spinipes.* VESPA, abdomine fasciis sex flavis, femoribus intermediis denticulatis.

Fab. Syst. Piezat. 263. 54.

EXHIBITED and presented to the E. C. September 1808, by G. B. Sowerby.

OBS. Several new species of Acridium were also exhibited with the above, by the same gentleman.

15. *megacephala.* DIPLOLEPIS, atra capite maximo retuso, abdomine truncato.

Fab. Ent. Piezat. 149. 2.

Cynips megacephala. Fab. Ent. Syst. 2. 103. 17.

HABITAT in Daniæ ligno antiquo. *Fab. l. c.*

EXHIBITED and presented to the E. C. by T. G. Ingall. Tr. E. S. Sept. 1808.

OBS. This is a minute but very extraordinary insect.

16. *regia.* CHRYSIS, nitens thorace cyaneo, abdomine aureo: ano integro.

Fab. Syst. Piezat. 175. 26.

ANNOUNCED, October 4, 1808, as recently presented to the E. C. by G. B. Sowerby.

17. *melanocephala.* MUTILLA, hirta rufa, capite abdominisque apice nigris.

Fab. Syst. Piezat. 499. 49.

ANNOUNCED with the last, and added to the E. C. with it.

18. *felina.* STRATIOMYS, scutello bidentato, abdomine viridi: dorso atro maculis utrinque triangularibus anoque flavis.

Panz. Faun. Ent. Germ. cum icone?

Magnitudo et Statura Muscæ Chameleonis Lin.

ANNOUNCED, October 1808, as recently added to the E. C. by R. Scales, who caught it near London.

19. *livida.* BLATTA, livida immaculata elytris ad angulum acutum striatis.

Fab. Ent. Syst. 2. 10. 23.

Affinis B. lapponica. Antennæ corpore longiores, fuscæ. Thorax, elytra striata, corpus pallidum immaculata. Fab. l. c.

ANNOUNCED, with the above, and recently presented to the E. C. by J. P. Neale, F. E. S.

OBS. At the same meeting, Noctua compta of Hübner, (N. variegatina Prod. Lep. Brit.) was presented to the E. C. (which had only foreign specimens of it) by I. Fenton, F. E. S. It was of his taking. Aud the rare Noctua citrina of Donovan, and Noctua Pinastri, were exhibited by S. T. Dawson, F. E. S. who lately caught them.

20. *gigantea.* FORFICULA, pallida supra nigro variegata ano bidentato: forcipe porrecta unidentata.

Fab. Ent. Syst. 2. 1. 2.

EXHIBITED with the next article, November 1808, by G. B. Sowerby, as recently taken by the Rev. W. Bingley of Christchurch, Hampshire. Also announced by the President as recently

added to the E. C. along with the next article, by Mr. Bingley.

21. *erythrocephala.* FORFICULA, nigra capite caudaque ferrugineis, abdominis maculis pedibusque flavescentibus.

Fab. Ent. Syst. 2. 4. 12.

22. *impressus.* PSELAPHUS, ater, elytris abbreviatis rufis, thorace globoso puncto utrinque impresso, pedibus fuscis.

Panz. Ent. Germ. cum icone.

Long. Corp. 1 lin.

EXHIBITED, with the above, and since presented to the E. C. by G. B. Sowerby.

25. *verrucævora.* LOCUSTA, alis viridibus fusco maculatis, antennis longitudine corporis.

Fab. Ent. Syst. 2. 42. 33.

Gryllys verrucævorus. Lin. Faun. Suec. 870.

EXHIBITED along with a number of other Insects, Nov. 1808, caught in Hampshire by the Rev. W. Bingley, and communicated by him to the President, with a request that he would retain any which might be wanting to the Entomological Cabinet.

X. *An Account of the Genus Coccinella.*

By A. H. Haworth, P. E. S. &c.

Read November 1807.

Whatever in Entomological pursuits is sufficiently interesting to excite the attention of the public mind, however unimportant in itself; may still be not unworthy the examination of the Entomological Society. Wherefore an account of the large broods of Coccinellæ, "The Lady-Birds," which have recently so much surprised the fashionable visitors of Margate and its vicinity, may likewise be allowed to furnish some entertainment to this Society. But the writer of it has not the vanity to conceive that it will afford much new matter to them; or that it can be expected to afford it. Nevertheless it may prove acceptable, by exhibiting the subject more extensively than usual; and that it may be as much so to the Society as possible, the account here given of "The Lady-Birds" at Margate, or elsewhere, is closed by a scientific enumeration and description of such British species of true Coccinellæ (exclusive of the Scymni of Herbst,) as the author has hitherto seen. They amount collectively to the number of thirty-eight species; and whether in the Larva, or winged state, are entirely aphidivorous; or devourers of the Aphides, or Lice of plants. So that not only "the Aphis, or Hop Fly," as the Newspapers have lately

termed it, may be *suitably reduced* in its destructive numbers, by the common Lady-Bird; but that the Aphides, or proper destroying flies, of other vegetables; shall in like manner, be *suitably curtailed*, in *their* redundancies; by Coccinellæ of other, and more appropriate species. Suitably reduced let us repeat; because the Almighty has made nothing in vain, although not yet manifest to us: and he, therefore, permits not even the Aphides to perish beyond due measure: their valuable services being wanted, probably to keep up various stimuli in the vegetable kingdom; and occasionally to assist in the reduction of its subjects: and in so doing, makers as they are of the honey dews of summer, to transform vegetable matter into liquid sugar, (their very excrement, as is proved by Curtis, being such) for the support of Hymenopterous, and Dipterous Insects; (but more especially mellivorous Bees) whose uses in various instances along with the Ichneumons, &c. are to reduce the too great exuberance of the Lepidopterous tribes; which in their turn cooperate with the Aphides in reducing plants, and furnish by their larvae, a food peculiarly and essentially necessary for our soft-billed Birds, without which their infant offspring could not at all be reared. But notwithstanding these processes of Nature are daily occurring before the eyes of man; he notices them not: or, seeing; feels himself incapable of appreciating the matchless, but intricate order of the Universe; the whole revolving as it were, in a beautifully harmonious, but almost imperceptible circle.

A further detail of these interesting circumstances,

the limited nature of this paper, will not properly allow; but more extensive explanations, concerning them, may be found in different parts of Lepidoptera Britannica.

"The Lady-Birds" which have of late no little perplexed the visitors of Margate are chiefly, the common Coccinella 7-punctata, and C. 2-punctata; but especially the former: and their numbers may reasonably be accounted for, from the long and unusual continuance of dry weather we have lately experienced: and which has unquestionably, been favourable to their growth and propagation. To this may be added, that the same weather (deleterious enough to vegetable life) has equally increased their favourite food the Aphides.

These circumstances concurring, have no doubt given birth to what Entomologists denominate "full broods." "Lady-Birds;" and a great many other species of Insects indigenous to Britain, as also the Hop Flies, have occurred in uncommon numbers; and several have this year been taken, which in ordinary seasons are rarely to be found. Moreover, in such a season, several broods, in addition to the usual vernal, and autumnal ones, would unquestionably intervene; as is the case with most Insects; and notoriously so with Silk Worms: these valuable creatures in India passing regularly through many broods every season; while in Italy they effect much fewer; and in this climate, although nursed up in our houses as curiosities, with difficulty, surmount the vicissitudes of one.

But those, who with some of the newspaper wri-

ters, conceive that the present large broods will be succeeded next season, by still greater ones; are probably mistaken. Because, it is generally found that a superabundance of any species of Insect, (and indeed even of fruit,) in any year, is succeeded in the following one, and often for several years afterwards; by a proportionate scarcity. This is well known to Naturalists, and particularly is the case with Papilio Antiopa, P. Edusa, P. Cardui, and others, which appear occasionally, in a plentiful manner; and speedily afterwards disappear for many seasons. Of P. Cardui it is said a great brood occurs every three, or four years; the intermediate ones producing very few. Of P. Edusa, once in about seven years, the intervening ones hardly appearing to give birth to any. And of P. Antiopa, not more than once in the long period of twenty years: the intermediate ones, as far as we know, perfecting none. Neither do these periodical, though irregular flights, especially of the last mentioned Insect, emigrate from the shores of the Continent, to us, as some have conjectured. For this, in the case of P. Antiopa, is remarkably manifest to us: the english bred ones forming a distinct variety of the species not elsewhere found; and which is discriminated from all others of exotic origin, by the superior whiteness of the border of its wings.

A few years since a generally diffused brood of Tortrix viridana (Green-Pea Moth) appeared, and with other larvæ, absolutely defoliated almost every oak within one hundred miles of London, and possibly much further; so much so, that had three successive

years of such a pest occurred, they must have destroyed every oak within their reach. But the allwise Creator, permits none of the works of creation to be done away; ordaining, that all extensive evils shall effect their own cure. Such was evidently the case with the Tortrices in question. The total foliage of their only food, the oaks, proved insufficient to bring to maturity the mighty host of Caterpillars that bereaved them of their leaves. The devourers consequently perished, both as larvæ and pupæ, from hunger, in myriads inconceivable. So that in the succeeding season hardly one was to be found in a day's walk!

These however, now meeting with abundance of food, bred surprisingly; and the year succeeding, the species recovered its wonted frequency: but has not since occurred in injurious quantities.

These preliminaries considered, the skilful Entomologist, is taught not to calculate with the public, that we shall have still more "Lady-Birds" next year, than we have this; *but probably fewer*. For, were it otherwise, the whole race of Aphides (unless equally fertile; and then plants must fail) would suffer too much; and their useful labours as honey-makers, &c. would be wanting in other departments of Nature's machinery: where all things are most exquisitely adapted to act in concert with each other; thence constituting, preserving, and continuing the matchless order of the Universe.

But Coccinellæ, although the chief enemies of the Aphides, are by no means, the only ones, they have to encounter: for many Aphidivorous Insects exist;

various Muscæ, and Asili, devour them with avidity. As also, but less frequently, the larvæ of Hemerobii. Several minute Ichneumons, one of which bears the name of I. Apidum, subsist upon them. A variety of formidable Wasps likewise; and Ants; and Earwigs; and nearly the whole race of Cimicæan Insects; as well as numerous Carabi and Libellulæ, destroy great quantities. And lastly in the long catalogue of their foes, stands the merciless nation of Spiders, tearing in pieces the winged ones, with all their unrelenting and characteristic ferocity.

Amidst so many, and such formidable enemies, a power of increase and fertility sufficient to meet the demands of all its assailants, is bestowed by its Maker on the Aphis: a fertility greater than, and utterly differing from, what is given to any other creature in the hitherto-known scale of creation.

That the Aphidean Nation may not perish beyond due measure, its females are not only enabled to survive the inclemencies of our winters; and to bring forth from fifty to an hundred young ones several times in a year; but they have the further ability of giving birth to living offspring in summer, and in cold autumnal, or vernal weather, of depositing impregnated eggs upon their favourite food; better calculated to resist the effects of those seasons, than newly excluded young. Thus being at one season viviparous; and at another oviparous: and this as occasion shall require.

But the most singular circumstance of all concerning them, is the infrequency of their amours; and incalculable fertility: seldom indeed are they observed

in sexual intercourse: but to remedy this apparent defect, the male is endowed with a fœcundating faculty, that is not only inconceivable, but that at once surpasses all analogy: one single embrace from him, giving birth to, and quickening, from nine, to thirteen successive generations, each distinctly, and individually fertile!

That is, a female once impregnated, is capable of producing other females, needing no male, but already pregnant; and so on, to many generations!

M. Bonnett, of philosophic memory, whose particular attention was long directed to the Aphides, proclaims the above doctrine concerning their fœcundity: and our friend, the late Mr. Curtis, in his remarks on Aphides, gives implicit credit to it.

Notwithstanding this prodigious increase, it is generally observed about the months of August and September that Aphides are far less frequent, than in the preceding ones of spring and summer; or in mild autumnal weather: and indeed in some seasons, hardly any are to be found at those times. Wherefore it should appear, that in Hop Grounds, and Gardens much infested with them; or in any other places mischievously abounding in Aphides; the above would be the best periods to attempt their destruction: either by endeavouring to destroy what could be got at by fumigations, or otherwise: or, by introducing, as many living Coccinellæ, as could be procured; and distributing them amongst the most infested plants: where they would remain, and breed readily, unquestionably lessening the numbers of the Aphides.

The further uses of Coccinellæ, as far as we know, are very few: yet in medicine, the common seven-spotted Lady-Bird has been exhibited on the Continent, in cases of the tooth-ach, and in some constitutions successfully; operating probably, as a sedative. The recent Insects were applied bruised, in the hollow of the aching tooth.

But the time is doubtless fast approaching, when the useful qualities of these, and other Insects, will be more investigated, and better ascertained.——When both the genera and species, will be more thoroughly understood.—When the unfounded slur attached by the vulgar, to the pursuit of Entomology, will be done away.—And, when all ranks will have pleasure in distinguishing Insects from the other branches of animated nature; by those exquisite patterns of the works of Omnipotence, their truly wonderful and complex Antennæ.——Then will it be as customary to speak of the *antennated* Nations, as it is now to extol the virtues, or the beauties, of the *flowery* Race.—Or, to recite the uses and the manners of the *feathered*; or, the *finny* Tribes.

"O Lord, how manyfold are thy works; in wisdom hast "thou made them all: the earth is full of thy riches.
——— "Give thanks unto the Lord: make known his deeds among the people.——*Talk ye of all his wonderous works.*"

DAVID.

Let us now approach the more scientific department of our subject.

The Genus Coccinella, we believe, was first announced by our countryman, the well known Petiver,

and adopted by Linnæus and others: and is one of the few Linnæan genera of Insects, which has not been divided and altered, by subsequent Entomologists: no one, as far as we know, except Herbst having attempted to do so: and the Genus which he took from it under the name of Scymnus, has not yet been accepted by Fabricius or his followers; although eventually it must; as its species greatly disresemble genuine Coccinellæ, in manners and in make, and accord well with each other, not only in their mode of life; but likewise in their natural characteristics.

The Genus Coccinella is an extensive one, but the individuals of its species are not nearly so numerous as those of most other genera: and are usually found solitary, not many together, being rarely, if ever, gregarious by choice; except in the sheltered crannies they pass the winter in. Although when fuller broods than common are observed, of any particular species; they may appear to uninformed observers to congregate: as was the case precisely with "the Margate "Lady-Birds."

Entomological Authors have lately differed materially, in their opinions concerning both the generic, and specific distinctions of various of the more common Europæan Coccinellæ. Herbst, as above mentioned, makes two genera of them; and calls those small depressed species, which have capitate antennæ, and pubescent elytra, by the generic name of Scymnus. And he likewise, as well as some other continental writers; makes many of our more frequent sorts, varieties, and not species.

In these opinions and alterations, however, he is not followed by Fabricius; who in his last great work on Coleopterous Insects; his celebrated Systema Eleutheratorum; retains the Genus entire; and preserves all the old species distinct: but at the foot of page 359 makes the following remarkable observations;

"Coccinellæ species difficillime eruuntur. Varie-
"tates forte plures, at adhuc vix rite observatæ. Re-
"tinui ideo plurimas usque dum magis illucescant.
"Differentiâ specifica distinctæ nil damni inferunt,
"et species nulla deletur."

This great Entomologist in the work just mentioned, describes old and new, indigenous and exotic, (including the Scymni) 162 species. Thirty-eight species as above mentioned (exclusive of Scymni) inhabit Britain,—and I possess about as many more which are foreign.

In the Entomologia Britannica fifty-one species (including seven Scymni) are enumerated; several of which however, are in this paper, (which contains all the true Coccinellæ of that work) redueed to varieties; and some are here given which are not there described.

The genus Scymnus of Herbst is not there separated; not even as a section, from Coccinella. And the reducing of the common species to varieties, after the manner of Herbst, &c.; is not adopted.

On the contrary, at page 169, it is observed as follows:

"Ex coitu Coccinellarum inter omnes familias
"promiscuo, varietates plurimæ ortæ sunt. Nullam

ff autem speciem introduxi, quæ non suam formam
" in omni solo, et sub quocunque casu, constanter
" servat." *Ent. Brit.* 169.

This observation, concerning the promiscuous sexual intercourse of these Insects, is a very true one; as I am convinced by long practice, and frequent ocular demonstration: having often seen *in coitu*, Coccinella 4-pustulata, and C. bipunctata; and also C. 6-pustulata, and C. bipunctata; and others.

And practical Entomologists well know that similar unions happen in other genera, but more especially in Cicada; and from them arise occasionally, a set of hybrid varieties; which still do not overturn the primitive distinctions of the original species, whence they sprung; however difficult they may sometimes render the task of discriminating, amongst such a set of mongrel productions.

It is even probable that two species of distinct sections, may occasionally generate a race very different from both parents; yet resembling both; and *not barren;* as is usually the case with mules: but capable of procreating. And such a brood some hold to be, *a new, and distinct species*, in the scale of Nature—brought to light by her own operations: and in the very same way that she has occasionally multiplied; and still continues to increase, the stupendous numbers of her vegetable kingdom.

The author is here aware that the opinion of the celebrated Hunter, and others, is totally against this doctrine: and on the contrary, would assert, that any animals, whether " Dogs, Wolves, or Foxes;" that can intermix, and breed with each other; and

whose offsprings are fertile; are of *one species*. But surely this is going too far: and few of the most enlightened Naturalists of the present day, can be expected to admit it. For if so, by mere parity of reasoning; Canary Birds, and various other Fringillæ, and Loxiæ, which they readily breed prolific mongrels with; would be of *one species*. So likewise, would be the common, and large muscovy Ducks, which often generate fertile broods. Neither would the generous, and intelligent Horse, be any longer deemed distinct from the stupid, but suffering Ass: for in the all-productive climate of New Holland, at the unnatural command of man, prolific young ones arise from the sexual intercourse of those well-known quadrupeds. But to return.

Under the above impressions, it has been judged best, not to preserve the original Genus Coccinella entire: but to separate the Scymni, after the manner of Herbst; preserving the chief part of the species of Fabricius and of the Entomologia Britannica as far as they concern this paper; which professes to give the genuine Coccinellæ of Britain only, but nevertheless reducing to varieties such, as it is conceived it would be most ineligible to retain as distinct, pointing out as we go on, those which appear to be hybrids, and their origin; but which still are capable of propagating a fertile progeny like themselves. The works I have referred to are only those of Linnæus, Fabricius, and the Entomologia Britannica: the more recent ones of Illiger, Paykull, and Gyllenhall, I have never seen. Without further remarks therefore, the arrangement and descriptions of

the species may commence. They are almost entirely worked anew, from well-preserved English specimens, and made with the occasional assistance of a *single* lens.

ENUMERATIO COCCINELLARUM, quæ in Magna Britannia reperiuntur.

COCCINELLA. (LADY-BIRD.)

CHARACTER GENERICUS.

ANTENNÆ moniliformes, subclavatæ, truncatæ, thorace breviores, ante oculos insertæ.

PALPI antici clava semicordata, postici filiformes.

CHARACTER NATURALIS, plerumque ex Fab.

CORPUS parvum, hemisphæricum, vel gibbo-oblongum, nitidum, subtus planum, et plerumque pubescens; totum lente punctis impressis creberrime tectum, *capite* ovato, inserto; *antennis* (nostris speciebus) ferrugineis, clavâ fuscâ; *oculis* rotundatis, lateralibus, nigris; *thorace* submarginato, margine deflexo; *scutello* minuto, rotundato; *elytris* rigidis, valde fornicatis, obtegentibus, longitudine abdominis; margine subtus canaliculato; *pedibus* brevibus, validis, *femoribus* compressis, *tibiis* rotundatis, *tarsis* triarticulatis, pallidioribus: *colore* (elytrorum) rubro, fulvo, flavo, nigrove, sæpiusque definite punctatim-maculato.

CHARACTERES SECTIONUM.

* PUNCTATÆ, Coleoptris rubris, flavisve, plerumque nigro-punctatis.

** PUSTULATÆ, Coleoptris nigris, fulvisve, rubro-maculatis.

*** GUTTATÆ, Coleoptris fulvis, flavisve, albido-maculatis.

CHARACTERES SPECIERUM.

* PUNCTATÆ, Coleoptris rubris, flavisve, plerumque nigro-punctatis.

1. 7-*punctata*, (Common Lady-Bird) coleoptris rubris punctis nigris 5—7.

Linn. Syst. Nat. 581. 15.

Faun. Suec. 477.

Fab. Syst. Eleut. 1. 364. 52.

Marsh. Ent. Br. 152.

Habitat in plantis herbaceis, frequens, Aphides potissime devastans.

Long. Corp. 2½ lin.—ad 3½.

α. *vulgaris*, valde convexa, nigra, antennis hirtis ferrugineis clavâ fuscâ, punctis duobus frontalibus, maculisque duabus rhombeis ad angulos frontales thoracis, albicantibus. Coleoptra rubra, puncto nigro communi baseos, albido utraque antice adnato, quatuor medio arcuatim transversis, et æquidistantibus, duobusque posticis latera exteriora versus.—Totum corpus lente punctis impressis creberrime tectum, pedes pilosi, tarsi subtus pallidi, ungues ferruginei.

β. 5-*notata*.—Omnibus priore convenit, nisi absentiâ punctorum duorum medio dorsi.

Varietas rarissima apud Nordovicum capta, communicavit amicus Dom. J. Hooker, Entomologus assiduus.

2. 5-*punctata*, (5-spotted Lady-Bird) coleoptris rubris, punctis quinque nigris.

Linn. Syst. Nat. 580. 11.—*Faun. Suec.* 474.
Fab. Syst. Eleut. 1. 363. 47.
Marsh. Ent. Br. 151.

Habitat in plantis herbaceis, præsertim Umbelliferis.

Long. Corp. 2½ lin.

Descriptio. Exemplaria parva præcedenti simillima; at species distincta; enim minus convexa est; differt etiam absentiâ punctorum duorum mediorum lateralium. Cæteris omnino convenit.

3. *perforata*, (Perforated Lady-Bird) elytris rubris puncto unico medio nigro, fissurâque anticâ transversâ.

Coccinella *perforata*, coleoptris nigris fissurâque elongatâ; margine nigro. *Ent. Br.* 151?

Habitat rarissime Hortis.

Long. Corp. 2½ lin.

Descriptio. C. bipunctatæ simillima, et forte ejus mera varietas. Differt paulo oblongior, elytris obsolete rugulosis, et præcipue lineolâ transversâ valde impressâ inter punctum et basin.

"Omnibus simillima C. 2-punctatæ, fissurâ exceptâ." *Ent. Br.* l. c.

4. 2-*punctata*, (2-spotted Lady-Bird) coleoptris

rubris flavisve, punctis duobus mediis, et sæpe sesquialtero.

Linn. Syst. Nat. 580. 7.—*Faun. Suec.* 471.

Fab. Syst. Eleut. 1. 360. 29.

Marsh. Ent. Br. 150.

Habitat frequens; præcipuè, plantis herbaceis, Hyemat sub cortice, et in lignis vetustis; etiam in domibus.

Long. Corp. 2—2½ lin.

α. *vulgaris*, elytra punctis duobus mediis rotundis. C. 5-punctatæ simillima, differt numero punctorum; caret notâ pallidâ ante punctum commune. Thorax subinde punctula duo pallida, interdum confluentia, prope scutellum gerit.

β. *flava*, coleoptris flavicantibus, puncto rotundo nigro. Varietas rara.

γ. *sesquipunctata*, elytris puncto unico rotundo medio, sesquialtero opposito ad marginem exteriorem. Varietas frequens.

δ. *interpunctata*, coleoptris rubris puncto medio nigro, sesquialtero contiguo juxta suturam.

ε. *rhombipunctata*, puncto medio elytrorum oblongo vel rhombiformi. Varietas frequens.

5. *unifasciata*, (Barred Lady-Bird) coleoptris rubris fasciâ mediâ interruptâ atrâ.

Fab. Syst. Eleut. 1. 359. 19.

Marsh. Ent. Brit. 149.

Habitat rarius in Hortis.

Long. Corp. 2½ lin.

Descriptio. Varietati ultimæ C. bipunctatæ simillima, elytra fasciâ mediâ transversâ atrâ,

quæ ad marginem exteriorem punctulis duobus nigris terminata est, et ad suturam vix attingit. Forte varietas præcedentis, nec sequentis propter thoracis characteres. Forte hybrida proles inter C. 2-punctatam et C. septem-pustulatam, at fertilis.

6. *annulata*, (Black-ringed Lady-Bird) coleoptris rubris, annulo medio irregulari nigro.

Linn. Syst. Nat. 579. 5.

Fab. Syst. Eleut. 1. 359. 20.

Marsh. Ent. Br. 149.

Habitat rarius, in plantis herbaceis, præsertim Polygono aviculari.

Long. Corp. 2½ lin.

Descriptio. Nigra. Caput præcedentium. Thorax margine laterali omnino, at tenuiter pallidâ,—et interdum lineolâ medio longitudinali etiam pallidâ. Coleoptra fasciâ mediâ undulatâ, quæ ad suturam subinterrupta est; fasciâ alterâ posticâ subundulatâ priore incurvatim utraque junctâ, quæ, nec suturam absolutè, nec ad marginem exteriorem attingat. Præterea linea minuta nigra, sæpe obsoleta, in singulo elytro, prope scutellum.

Forte proles hybrida, at prolifica, inter C. bipunctatam et C. 4-pustulatam.

7. *lineolata*, (Shoulder-striped Lady-Bird) elytris rubris punctis tribus, lineolâque humerali nigris.

C. lineolata. *Ent. Br.* 153.

C. sinuata. *Ent. Br.* 160.

Habitat, in sylvis Norfolciæ, prope Holt. Mu-

sæo communicaverunt ejus captores Amici, Rev. J. Burrell, et Rev. T. Skrimshire.

Long. Corp. 2 lin.

Descriptio. Nigra. Caput et thorax C. bipunctatæ. Elytra rubra puncto communi nigro baseos scutellum tegens; duobus aliis parallelis disci, uno medio, uno pone medium; lineolâque humerali puncto medio exterius fere junctâ. Sutura basi nigra, cæteroquin fuscescens.

8. 11-*punctata*, (11-spotted Lady-Bird) coleoptris rubris punctis nigris undecim.

Linn. Syst. Nat. 581. 18.—*Faun. Suec.* 480.

Fab. Syst. Eleut. 1. 367. 66.

Marsh. Ent. Br. 155.

Habitat in sepibus, sed infrequens.

Long. Corp. 2½ lin.

Descriptio. Nigra. Caput et thorax præcedentis at antennis ferrugineis, clava fusca. Corpus paulo oblongius. Elytra rubra puncto communi baseos nigro, altero humerali, et duobus paribus disci paulo obliquis, uno pari post alterum.

β. *confluens*, punctis duobus disci anticis confluentibus.

Long. Corp. 1¼ lin. Varietas rarissima.—Communicavit S. Wilkin.

9. 9-*punctata*, (9-spotted Lady-Bird) coleoptris rubris, punctis nigris novem.

Linn. Syst. Nat. 581. 16.—*Faun. Suec.* 478.

Fab. Syst. Eleut. 1. 366. 61.

Marsh. Ent. Br. 154.

Habitat in sepibus at infrequens.

Long. Corp. 2¼ lin.

DESCRIPTIO. Præcedente differt solum in absentiâ puncti nigri humeris. Forte ejus mera varietas, at exemplaria intermedia nunquam vidi.

10. 7-*notata*, (7-dotted Lady-Bird) suboblonga, coleoptris rubris punctis 3—9 nigris.

Fab. Syst. Eleut. 1. 365. 54.

Marsh. Ent. Br. 153.

Habitat in sepibus.

Long. Corp. 2—2½ lin.

α. *vulgaris*. Species variabilis. Corpus, caput et thorax præcedentium, at paulo angustior. Thoracis discus interdum basi albo triradiatus. Elytra rubra puncto nigro communi baseos albido utraque adnato, punctis tribus disci, at posticis et triangulatim positis, apice anguli ad marginem exteriorem spectante.

β. 9-*notata*, coleoptris rubris punctis nigris novem: viz. uno communi baseos, uno in singulo humero, et tribus disci posticis 3-angulatim positis singulo elytro. Thorax niger, margine antico lateribusque albis; disco interdum nigro lineolâ longitudinali, punctisque duobus albis. Varietas vix infrequens.

γ. 9-*punctata*, coleoptris rubris punctis parvis novem: viz. uno communi cæteris duplo majore, altero minuto ante medium, singulo elytro, suturam versus, tribusque posticis triangulatim positis parvis. Caput flavum vertice nigro, thorax margine antico lateribusque albidis,

disco triradiatim albido. Communicavit ejus captor Rev. J. Burrell. Varietas rarissima.

δ. 5-*maculata*, coleoptris rubris punctis nigris quinque: viz. uno communi baseos, duobusque posticis contiguis disci, singulo elytro.—Varietate ultimâ differt, absentiâ puncti antici et postici elytrorum. Caput et thorax fere ut in illa.

Coccinella 5-maculata. *Fab. Ent. Syst.* 1. 273. 37.

Varietas infrequens. Communicavit amicus G. J. Hooker, Entomologus assiduus.

ε. 3-*punctata*, coleoptris rubris, punctis nigris tribus,—uno communi, altero in singulo elytro, pone medium suturam versus; cætera fere ut in ultima varietate.

Long. Corp. 2 lin.

Coccinella 3-punctata. *Linn. Oper.* et ejus Mussæi.

Communicavit S. Wilkin. Variat duplo major.

11. 13-*punctata*, (Oblong 13-spotted Lady-Bird) oblonga, coleoptris rubris flavisve, punctis nigris tredecim sparsis.

Habitat, inter arundines, æstate tempore.

Long. Corp. 3 lin.

α. *vulgaris*. Caput et pedes fulvi, vertice oculis femoribus unguibusque nigris. Thorax fulvus medio late punctisque duobus lateralibus nigris, elytra rubra, punctis 12 sparsis magnis, præterea communi etiam nigris.

β. *pallida*, coleoptris subluteis, punctis tredecim sparsis.

Coccinella 13-*punctata*. *Linn. Syst. Nat.* 582. 20.—*Faun. Suec.* 481.
Fab. Syst. Eleut. 1. 369. 76.
Marsh. Ent. Br. 156.
Habitat inter arundines.

12. 19-*punctata*, (19-spotted Lady-Bird) oblonga, thorace flavo sexpunctato, elytris flavis punctis nigris sparsis novendecim.
Linn. Syst. Nat. 582. 25.—*Faun. Suec.* 485.
Fab. Syst. Eleut. 1. 371. 85.
Marsh. Ent. Br. 158.
Habitat in paludosis—In Bardolph Fen Norfolciâ, copiose mense Septemb. præcipue inter plantas Poæ aquaticæ.
Long. Corp. 1¼ lin.
Descriptio. Nigra. Pedes et antennæ flavæ, clava fusca. Caput flavum vertice lobatim nigro. Thorax flavus punctis sex transversis, viz.: 4—2—Elytra etiam flava punctis nigris 19 sparsis valde contiguis, ad marginem non attingentibus excepto communi baseos.

13. 13-*maculata*, (13-spotted Lady-Bird) nigra, hemisphærica, thoracis punctis 5, elytrorum 0—13, nigris.
Habitat, cum ejus varietatibus numerosis, locis tiliaceis, copiosè per totam æstatem; hyemat sub cortice, et lignis vetustis.
Long. Corp. 1¼—2 lin.
a. vulgaris. Corpus nigrum, pedes plus minus rufi. Caput flavum antice posticeque plus minus

nigrum. Oculi nigri. Thorax flavus maculis 5—7 nigris. Elytra rubra vel sæpe subflava, punctis nigris tredecim subæquidistantibus: uno communi, uno humerali, tribus mediis transversis: horum externo marginali: duobus posticis itidem transversis: horum uno in margine exteriore.

Fab. Syst. Eleut. 1. 369. 74.

Marsh. Ent. Br. 157.

β. *confluens*, thoracis maculis septem confluentibus, maculisque tribus centralioribus elytrorum, valde confluentibus in maculam magnam lobatam puncto rubro relicto, earum medio; cætera ut in priore. Varietas rarissima, et persingularis.

Communicavit amicus Rev. T. Skrimshire, Entomologus assiduus.

γ. 11-*notata*. Penultimâ solum differt absentiâ puncti postici marginis.

Coccinella 11-*notata*. *Marsh. Ent. Br.* 155.

δ. 10-*punctata*, antepenultimâ differt solum absentiâ puncti postici marginis et communis basis.

ε. Coccinella 10 *punctata*. *Linn. Syst. Nat.* 581. 17.—*Faun. Suec.* 479.

Fab. Syst. Eleut. 1, 366. 62.

Marsh. Ent. Br. 154.

ζ. 8-*punctata*, varietate vulgari differt absentiâ puncti communis, duorumque posticorum elytri singuli; caput fere flavum, oculis nigris.

η. Coccinella 8-*punctata*. *Fab. Syst. Eleut.* 1, 365. 55.

Marsh. Ent. Br. 153.

ϑ. 6-*punctata*, varietate vulgari differt absentiâ punctorum omnium elytrorum exceptis tribus transversis. Varietas valde infrequens.

ι. Coccinella *sex-punctata*. *Linn. Syst. Nat.* 580. 12.

Fab. Syst. Eleut.

Marsh. Ent. Br. 152.

κ. 4-*punctata*, varietate ultimâ differt solum absentiâ elytrorum puncti intermedii. Varietas infrequens.

Coccinella 4-*punctata*. *Linn. Syst. Nat.* 580. 9.

Coccinella 8-*punctata*, *var. Fab. Syst. Eleut.* 1. 365. 55.

Marsh. Ent. Br. 151.

λ. *margine-punctata*, varietate ultima differt solum absentiâ puncti interioris elytrorum. Varietas rarissima.

Coccinella *margine-punctata*. *Ent. Br.* 150, excluso synonymo Fabricii, quod ad varietatem Coccinellæ 16-punctatæ proculdubio pertinet.

μ. *innotata*, coleoptris absolute immaculatis flavicantibus, cæteris priori omnino convenit. Varietas rara.

Long. Corp. $1\frac{1}{4}$—2 lin.

ν. *bina*, elytris flavicantibus puncto humerali nigro; cætera ut in priore.

ξ. *terna*, elytris flavicantibus, punctis tribus nigris; uno humerali duobus transversis medio, ad singulam marginem singulo. Varietas rara.

ο. *quaterna*, elytris flavicantibus, punctis nigris 4,

quadratim positis—uno humerali, duobus transversis ut in ultima, alteroque postico suturam versus. Varietas infrequens.

ε. *quina*, elytris flavicantibus, punctis ut in ultima varietate, punctoque altero postico marginali. Varietas rarissima.

ζ. *sena*, elytris flavicantibus punctis nigris sex. Varietate primâ hujus speciei differt solum in absentiâ puncti communis baseos elytrorum.

η. *septena*, elytris flavicantibus, punctis nigris septem; uno humerali, tribus mediis transversis; tribusque posticis itidem transversalibus, horum duobus ultimis marginem exteriorem versus cæteris multo minoribus. Varietas rarissima.

θ. *suturalis*, elytris flavicantibus punctis sex, suturaque usque ad medium nigra. Varietate primâ differt in suturâ nigrâ, et in parvitate puncti intermedii transversi, et duobus posticis nudo oculo vix conspicuis. Varietas rarissima.

14. 14-*punctata*, (14-blotch'd Lady-Bird) coleoptris flavis sutura punctis 14 oblongis, nigris, nonnullis eorum confluentibus.

Linn. Syst. Nat. 582. 21.

Faun. Suec. 482.

Marsh. Ent. Br. 157.

Coccinella conglomerata. *Fab. Syst. Eleut.* 1. 372. 93.

Habitat, in Hortis, vix frequens.

Long. Corp. 2 lin.

Descriptio. Corpus nigrum, pedes flavi femo-

ribus nigris, at basi apiceque flavis. Caput flavum, maculis quatuor nigris, antennæ flavæ. Thorax niger margine antico lateribusque flavis, elytra flava, sutura, maculisque quadratis 14, nigris; viz. tres anticæ arcuatim transversæ arcu thoracem versus spectantes, harum macularum tertia communis est,—tunc tribus aliis itidem transversis, harum una etiam communis, et juncta est ad secundam maculam hujus seriei; denique altera macula cōmuni in ipso apice.

15. 14-*maculata*, (14-spotted Lady-Bird) coleoptris flavis, sutura punctisque oblongis 14 distinctis nigris.

Fab. Syst. Eleut. 1. 370. 79.

Marsh. Ent. Br. 157.

Habitat cum priore at longissime rarior.

Long. Corp. 2 lin.

Descriptio. Caput fere præcedentis, pedes flavi femoribus medio plus minus nigris,—at anticis fere flavis—thorax flavus maculis sex sæpe confluentibus nigris: elytra flava suturâ punctisque 7 distinctis oblongis nigris—tribus anticis, superne transversis arcuatim, tribusque aliis similiter transversis, alteroque apicis sed non in ipso apice. Forte præcedentis tantum varietas, at exemplaria intermedia nondum vidi.

16. 22-*punctata*, (22-spotted Lady-Bird) hemisphærica, coleoptris flavis punctis nigris viginti duo.

Fab. Syst. Eleut. 1. 371. 87.

Marsh. Ent. Br. 159.

Habitat in Heraclio Sphondilio.

Long. Corp. $1\frac{1}{4}$ lin.

α. *vulgaris*, nigra, subinde picea.—Pedes flavicantes, femora post basin nigra, vel picea. Caput nigrum, fronte plus minus flavâ, antennæ ferrugineæ vel flavæ, clavâ obscuriore. Thorax flavus maculis 5 nigris—viz. 2 contiguis medio, 3 in margine postico. Elytris flavis, maculis nigris 10, viz. 3, 3, arcuatim transversis, et 4 plerumque posticis, quadratis, præterea una valde diminuta, in medio marginis exterioris, quæ subtus in ipso margine dilatato, magis conspicua est.

β. 20-*punctata*, coleoptris flavis, maculis nigris viginti.

Coccinella 20-*punctata*. *Fab. Syst. Eleut.* 1. 371. 86.

Marsh. Ent. Br. 158.

Varietate præcedenti simillima, differt, capite fere toto nigro, maculis thoracis sæpe confluentibus,—elytrorum majoribus; exigua macula semper, et subinde alia, alias confluentibus. Elytrorum subtus in medio marginis dilatati, punctum majusculum, et subinde sesquialterum posticum.

17. 12-*punctata*, (12-spotted Lady-Bird) hemisphærica, coleoptris flavis, suturâ punctisque duodecim nigris, extimis linearibus repandis.

Linn. Syst. Nat. 581. 19.

Fab. Syst. Eleut. 1. 367. 68.

Marsh. Ent. Br. 155.

Habitat in sepibus rara.

Long. Corp. 1½ lin.

DESCRIPTIO. Subtus et pedes ut in præcedente, antennæ ferrugineæ, caput nigrum lateribus flavis, oculi nigri. Thorax flavus, maculis sex nigris, viz. 4 in medio transversis, 2 in margine postico majoribus. Elytra flava, punctis nigris 4 perpendicularibus suturam nigram versùs, altero humerali, quatuorque aliis latera versus, figuram linearem repandam efficientibus.

18. 24 *punctata*, (24-spotted Lady-Bird) semiglobosa, elytris punctis nigris 22—24.

Linn. Syst. Nat. 583. 28.

Faun. Suec. 487.

Fab. Syst. Eleut. 1. 372. 90.

Marsh. Ent. Br. 159.

Habitat, ad ripas fossarum, inter plantas herbaceas, at rara.

Long. Corp. 1¼ lin.

α. *vulgaris*, nigra, lente subpubescens. Caput, pectus, pedes, thoracis margo anticus, et elytra rubra, punctis 24 nigris plus minus confluentibus, vel subinde distinctis——3, 4, 3, 2, plus minus arcuatim transversis. Scutellum nigrum. Femora sæpe nigricantia.

β. 22-*punctata*. Omnia ut in varietate præcedente, at puncto unico scutellum versus obliterato.

19. *rufa*, (red 24-spotted Lady-Bird) semiglobosa,

rufa, thorace puncto unico, coleoptris 20—24 nigris distinctis, vel subconfluentibus.

Habitat cum præcedente.

Long. Corp. $1\frac{1}{4}$ lin.

DESCRIPTIO. Præcedenti simillima, et forte mera varietas, at intermedia exemplaria nondum vidi. Differt, thorace rufo, puncto parvo centrali nigro, nec nigro margine antico tenuiter rubro. Differt etiam abdomine rufo nec nigro, —cæteris omnino convenit.

β. 22-*punctata*, varietate præcedente differt in absentiâ puncti extimi postici.

γ. 20-*punctata*, elytris punctis 20 distinctis nigris. Præcedentibus varietatibus differt præcipue in absentiâ punctorum 4 posticorum.

20. *impunctata*, (Spotless Lady-Bird) semiglobosa, elytris impunctatis.

Linn. Syst. Nat. 579. 4.

Fab. Syst. Eleut.

Marsh. Ent. Syst. 149.

Habitat ripis graminosis.

Long. Corp. $1\frac{1}{4}$ lin.

DESCRIPTIO. Præcedentis forte varietas sed constans, et elytris absque punctis, punctoque thoracis sive maculâ, multoties majore; cæteris omnino convenit.

** PUSTULATÆ, Coleoptris nigris fulvisve, rubro albidove maculatis.

21. *bisbipustulata*, (twice 2-pustuled Lady-Bird) to-

mentosa, coleoptris nigris punctis quatuor rubris, capite thoraceque nigris immaculatis.

Fab. Syst. Eleut. 1. 382. 139?

Marsh. Ent. Br. 167.

Habitat....

Panz. Faun. Ent. Germ. cum icone.

Long. Corp. 1 lin.

Exemplarium germanicum cassidæforme tantum possideo.

22. *bipustulata*, (Small 2-pustuled Lady-Bird) cassidæformis, nigra, elytris punctulo lineari rubro.

Linn. Syst. Nat. 585. 42.

Faun. Suec. 498.

Fab. Syst. Eleut. 1. 379. 128.

Marsh. Ent. Br. 164.

Habitat inter folia Quercûs, at rarius.

Long. Corp. 1½—2 lin.

Descriptio. Nigra. Caput, antennæ, anus, et pedes rufescentia; at femora tibiæque subinde nigricantes. Elytra nigra lucida, in medio linea transversa rubra plerumque ex punctis tribus confluentibus.

23. *Cacti*, (2-pustuled Lady-Bird) cassidæformis nigra, elytris pustulo rotundo rubro.

Coccinella Cacti. *Ent. Br.* 163, nec Linn. vel aliorum.

Habitat....

Long. Corp. 2 lin.

Musæo communicavit Dom. W. J. Hooker.

Descriptio. Nigra, abdomine posticè tarsisque

rubris. Elytra nigra nitentia, pustulâ magnâ rotundâ rubrâ centrali. Antennas non vidi.

24. *quadriverrucata*, (4-verrucated Lady-Bird) cassidæformis nigra, ano, elytrorumque pustulis quatuor rubris.

Fab. Syst. Eleut. 1. 381. 136.

Marsh. Ent. Br. 163.

Coccinella *cassidioides. Don Br. Ins. t.* 243. *f.* 3.

Habitat in Quercu, Hyemat sub cortice.

Long. Corp. 2 lin.

Descriptio. Nigra, ano rubro, elytris pustulis 2 rubris, prima lunaris humeralis, secunda rhombea, vix pone medium, suturam versus. Tarsi subtus, subinde pallidi. Antennas non vidi.

25. 12-*pustulata*, (12-pustuled Lady-Bird) elytris nigris pustulis duodecim rubris.

Fab. Syst. Eleut. 1. 385. 152.

Marsh. Ent. Br. 168.

Habitat, at valde infrequens in Quercu.

Long. Corp. 2 lin.

Descriptio. Hemisphærica, nigra. Caput nigrum maculis duabus rufis, antennæ fuscescentes. Pedes nigri, tarsi subtus pallescentes. Thorax niger, maculis duabus ad angulos anticos albis. Elytra nigra margine omni (suturâ exceptâ) pustulisque 6 rubris; viz. una humeralis, aliquot geminata, in margine antico, alteraque opposita in margine exteriore, tres transversæ medio, harum extimæ duæ ad mar-

ginem confluunt, sexta macula est magna lunata et communis in ipso apice. Margo elytrorum subtus dilatatus totus ruber.

26. *curvipustulata*, (curve-pustuled Lady-Bird) elytris nigris pustulo humerali incurvato, apiceque rubris.

Habitat prope Londinum.

Long. Corp. 2 lin.

Musæo communicavit ejus captor R. Scales.

DESCRIPTIO. Præcedenti simillima et forte mera ejus varietas, at exemplaria intermedia nondum vidi.

Nigra, tarsi et antennæ sordide ferrugineæ, clava fusca. Caput nigrum lateribus late flavis. Oculi nigri. Thorax ad latera et antice flavo tenuiter marginatus, lineolaque perpendiculari medio etiam flava. Elytra ipso basi pustulo magno incurvo rubro unguem avis simulante, alteroque duplo minore et fere communi in ipso apice. Margo dilatatus elytrorum supra tenuissimè, subtus totus ruber.

27. *bistriverrucata*, (twice three-verrucated Lady-Bird) coleoptris atris, pustulis 6 obsoletis rubris.

Habitat prope Londinum.

Long. Corp. 2½ lin.

DESCRIPTIO. C. 12-pustulatæ nimis affinis, atra, elytris pustulo rubro irregulari humerali in margine exteriore, alteroque dimidiato fere adnexo internè, cum pustulo tertio obsoleto

paulo pone medium suturam versus.—Subtus elytrorum margo rufescit. Tarsi subtus pallidi. Antennæ ferrugineæ clava obscuriore. Forte varietas C. quadripustulatæ.

28. *impustulata*, (Impustulated Lady-Bird) coleoptris nigris: puncto nullo.

Fab. Syst. Eleut. 1. *p.* 377.

Habitat in Com. Ebor.

Communicavit ejus captor amicus Dom. J. Atkinson, F. E. S.

Long. Corp. 2½ lin.

β. rufo-cincta. Atra: Coleoptrorum marginibus et apicibus, puncto exiguo humerali, duobusque magnis anguli antici thoracis, rufescentibus.

Obs. Prope Londinum bis capta. Forte propria species.

29. *lunæpustulata*, (Lunar-pustuled Lady-Bird) elytris nigris, vel flavis, pustulo lunato humerali, rubro flavove.

Coccinella *lunularis. Marsh. Ent. Br.* 168?

Habitat in locis tiliaceis frequens. Hyemat sub cortice, vel lignis antiquis.

Long. Corp. 2 lin.

α. nigra. Caput nigrum punctis duobus horizontalibus albis sæpe confluentibus. Os et antennæ plus minus ferrugineæ, clava fusca. Thorax niger ad latera latè albidus præcipue antice. Pustula lunaris elytri, variat magnitudine, et subinde ad marginem exteriorem attingat; margo ipse subtus dilatatus est, et plus minus ruber,

vel niger. Anus rufus. Pedes sordide ferruginei, femoribus subinde plus minus nigricantibus.

β. *biguttata.* Os et pedes ferruginei, elytra sordide brunnea, pustulâ fulvâ.

Coccinella biguttata. *Fab. Syst. Eleut.* 1. 374. 100.

γ. *fulva.* Elytra fulva, pustulâ albicante fere obliteratâ.

δ. *flava.* Elytra subflava impustulata, thorace nigricante, lateribus flavis, subinde flavo disco punctis confluentibus nigris, abdomine piceo vel flavicante, pedibus, ore, antennisque flavis clavâ fuscâ, oculis nigris.

Coccinella flava. *Marsh. Ent. Br.* 160.

30. 4-*pustulata,* (4-pustuled Lady-Bird) hemisphærica, nigra, coleoptris pustulis quatuor rubris.

Linn. Syst. Nat. 585. 43.

Faun. Suec. 499.

Fab. Syst. Eleut. 1. 381. 135.

Marsh. Ent. Br. 164.

Habitat in Hortis frequens.

Long. Corp. $2\frac{1}{4}$—$2\frac{1}{2}$ lin.

Descriptio. Nigra. Caput punctis duobus pallidis. Antennæ basi ferrugineæ, superne fuscæ. Thorax punctis duobus impressis humeros versus, angulo ipso antico tenuiter pallescente. Elytra pustulâ magnâ rubrâ quadratâ marginali ad basin, alterâque rotundâ, dimidio minore pone medium, suturam versus. Tarsi subtus

fusci. Pustulæ variant magnitudine. Margo dilatatus elytrorum subtus rufescit.

31. 6-*pustulatus*, (6-pustuled Lady-Bird) coleoptris nigris pustulis sex rubris.
Linn. Syst. Nat. 585. 44.
Faun. Suec. 500.
Fab. Syst. Eleut. 1. 383. 142.
Marsh. Ent. Br. 165.
Habitat cum priore.
Long. Corp. 2¼ lin.
DESCRIPTIO. Præcedenti fere in omnibus convenit, sed elytra tripustulata, una pustula quadrata majore marginali ad basin,—secunda rotunda pone medium suturam versus, tertiaque itidem rotunda marginali juxta apicem.

32. 7-*pustulata*, (7-pustuled Lady Bird) coleoptris nigris pustulis septem rubris.
Marsh. Ent. Br. 165.
Habitat cum prioribus, at longissime rarior.
Long. Corp. 2¼ lin.
DESCRIPTIO. Præcedenti simillima, differt pustulis basi fere communibus, et in pustula marginali pone medium cum pustula apicis confluente. Tarsi ferruginei. Abdomen margine segmentorumque marginibus, rufescentibus.

33. *bis* 4-*pustulata*, (twice 4-pustuled) coleoptris nigris pustulis octo rubris.
Habitat cum præcedentibus, at valde infrequens.
Long. Corp. 2—2¼ lin.

DESCRIPTIO. Ultĭma omnino convenit excepta pustula basi elytrorum, quæ non communis est, sed exactè ut in C. quadripustulatâ, enim sutura basi latissimè nigrescit, unde coleoptra octo-pustulata evadunt.

OBSERVATION. Till very lately I mistook the above for C. annulata, and it is probable there are Entomologists, who would consider not only the last, but *the whole* of the species of this family, as not distinct from C. annulata, C. unifasciata, and C. bipunctata; but surely this would be going a great deal too far, and would be even worse than mistaking a section, for a species, because it would lead to the blending of even *two* sections into *one* species. That they intermix sexually with each other, when their proper mates cannot be found, is well known, and I have even had larvæ produced from the union of C. bipunctata, and C. quadripustulata, which but for an accident would have been reared. Yet such junction, cannot destroy the distinctions, of the primitive species, although it may give birth occasionally, to hybrid broods; not barren, but capable of generating for a while others like themselves, as in the preface to this paper already remarked. Such are in all probability C. annulata, and C. unifasciata. If these two, had never existed, no Entomologist would have conceived that all the Insects of this section, and C. 2-punctata were of the same species! Wherefore it follows that they are not.

34. 10-*pustulata*, (10-pustuled Lady-Bird) coleoptris nigris fulvisve, pustulis decem rubris pallidisve.
Linn. Syst. Nat. 585. 45.
Faun. Suec. 501.
Fab. Syst. Eleut. 1. 384. 147.
Marsh. Ent. Br. 165.
Habitat Tiliaceis—Hyemat sub cortice, et lignis antiquis.
Long. Corp. 2 lin.

α. *rubripustulata*, nigra; caput flavicans punctis duobus confluentibus nigris in vertice, oculi nigri, antennæ pedesque rubri, femoribus plus minus nigricantibus, thorax flavus punctis 5 nigris, transversis, 2—3—sæpe omnino confluentibus. Elytra nigra, pustulis magnis quinque rubris, viz. 2. 2 transversis et una in apice, duabus anticis sublunatis, et sæpe connatis, extimis tribus, margine connexis. Margo subtus, et anus rufescit.

β. *flavipustulata*, pustulis flavis.

γ. *albipustulata*, pustulis, margineque subtus albicantibus.

δ. *parvipustulata*, pustulis præcedenti duplo minoribus fulvis, anticis distinctis sublunatis, posticis ad apicem non attingentibus, capite flavo, thorace nigro, lateribus flavis.

ε. *fulvipustulata*, pustulis magnis fulvis anticis sæpe connatis, thorace nigro puncto lateribusque flavis.

ζ. 10-*guttata*, coleoptris subfulvis, pustulis albidis decem, viz. 2, 2, transversis, unaque in apice, cæteris ut in præcedentibus.

Coccinella 10-guttata, *Linn. Syst. Nat.* 583. 33.

Fab. Syst. Eleut. 1. 374. 102.

Marsh. Ent. Syst. 161.

Obs. Exemplum unicum hujus variabilis speciei possideo, elytro uno *pustulis* 5 rubris, altero *guttis* 5 albidis.

γ. *sinuosa*, elytris flavicantibus, figurâ sinuatim subcruciformi, ex punctis quinque aliquot connexis subfuscis. Thorax flavus maculis quinque nigris confluentibus fere in unam.

C. sinuosa. *Marsh. Ent. Br.?*

δ. *rubripunctata*, elytris subfulvis, punctis sex rufescentibus—1, 3,—2, tranversis, confluentibus, vel omnino distinctis et remotis; thorace flavo punctis 5—7 nigris, transversis, 2 anticis, cæteris posticis; capite flavo punctis 4 nigris, 2 anticis fere obliteratis, 2 verticalibus confluentibus; oculisque nigris. Varietas persingularis, Coccinellæ 13-maculatæ simillima, et facile eadem, sed certè varietas C. decem-pustulatæ, et ultimæ varietati maxime affinis est.

ε. *obliterata*, coleoptris flavo-fulvis immunibus, thorace flavo punctis rufescentibus quinque.

ζ. 8-*guttata*, elytris fulvis guttulis 8 albicantibus. Ultima varietate convenit, excepta absentiâ guttæ intermediæ marginis exterioris, quæ omnino obliterata est; unde elytra 8 guttata evadunt.

Varietas rarissima prope Londinum capta.

*** Guttatæ, Coleoptris rufis flavisve albido-guttatis.

35. 18-*guttata*, (18-guttated Lady-Bird) coleoptris rufis guttulis 18 albidis.

Linn. Syst. Nat. 584. 36.
Faun. Suec. 494.
Fab. Syst. Eleut.
Marsh. Ent. Br. 162.
Habitat in Pino.
Long. Corp. 2 lin.

Descriptio. Rufescens, caput punctulis duobus albis, antennæ rufescentes clava saturatiore, oculi nigri. Thorax lateribus punctisque duobus posticis contiguis albis nigrò utrinque adnatis, margine anteriore, lunulisque duabus ad latera nigris. Elytra rufa guttis 9 transversis albidis, viz. 2 lunatis, in margine antico, tunc 1 rotundâ disci, tunc, 3 in medio, harum intermediâ dimidiatâ, extimâ marginali, tandem 2 contiguis, fere ad apicem extimâ marginali, denique 1 in ipso apice. Tres ultimæ confertæ in triangulum.

36. 14-*guttata*, (14-guttated Lady-Bird) coleoptris rufis, guttis 14 rotundis albis.

Linn. Syst. Nat. 583. 34.
Faun. Suec. 492.
Fab. Syst. Eleut. 1. 374. 105.
Marsh. Ent. Br. 161.
Habitat in Nemoribus.
Long. Corp. 2½ lin.

DESCRIPTIO. Rufa. Oculi nigri, antennæ rufæ clavâ saturatiore. Thorax rufus antice trilobatus, lineolâ longitudinali medio, punctisque duobus lunatis ad angulos posticos, albis. Elytra rufa guttâ unicâ basi, tribus transversis harum extimâ marginali ante medium; tunc duabus transversis pone medium; alteràque fere ad apicem, in medio.

37. 16-*guttata*, (16-guttated Lady-Bird) coleoptris luteis guttis 16 albis.
Linn. Syst. Nat. 584? 35.
Faun. Suec. 493?
Fab. Syst. Eleut.? 1. 375. 108.
Marsh. Ent. Br. 161.
Habitat in Quercetis, sed valde infrequens.
Long. Corp. 3¼ lin.
DESCRIPTIO. Cassidæformis, rufescens. Caput flavum thorace omnino tectum, oculi nigri. Thorax tranverse oblongus antice lunatus, punctis 5 obsoletis albicantibus, viz. 3 transversis ad marginem posticum, et 1 in medio singuli lateris. Elytra lutescentia, guttis 8 rotundis albis, viz. 2. 3. 3. oblique dispositis.

38. *oblongo-guttata*, (Oblong-guttated Lady-Bird) coleoptris rufescentibus, guttis lineolisque albis.
Linn. Syst. Nat. 584. 38.
Faun. Suec. 496.
Fab. Syst. Eleut. 1. 376. 111.
Marsh. Ent. Br. 162.
Habitat in Pino sylvestri.
Long. Corp. 3½ lin.

DESCRIPTIO. Rufescens. Caput thorace tectum punctis tribus nigris; os, antennarum clava palporumque apice nigricante. Ungues, femorum apice, tibiæque basi etiam plus minus nigri. Thorax antice lunatus, medio rufescens lateribus late albis; sed albedine intus lineâ nigrâ undulatâ terminata. Margo anticus etiam tenuiter albicat. Elytra rufescentia, sutura, marginibus, guttulis oblongis, lineolisque longitudinalibus subconfluentibus albicantibus varie dispositis, sed quasi 3—3. transversis, præterea una basi, alteraque in ipso apice.

XI. *Observations on the Coccus Vitis; with Remarks on some other Insects of that destructive Genus.*

By A. H. Haworth, P. E. S. &c.

Read September 1807.

As one of the leading objects of the Entomological Society, is professedly that of directing the science which it so assiduously cultivates, towards the attainment of useful purposes:—and as the full value of the knowledge of Insects can only be acquired by slow, and imperceptible gradations; it is presumed the following remarks, however incipient, on the Coccus Vitis of Authors; and on some other Cocci; may not be deemed unworthy the Society's attention. They may perhaps, lead to the excitement of further inquiries, which would unquestionably improve upon the data here offered. Wherefore the author, without hesitation, commences his remarks; which comprise a full account of the Coccus Vitis, and the mode of destroying it, and also of reducing the pestiferous numbers of the Coccus adonidum, the whole closing by a scientific enumeration and description of such other species of the Genus Coccus as he is acquainted with.

In the month of June last, his attention was particularly excited by a singular appearance of a considerable sized branch of a forced vine in his garden; on the one, two, and three years-old wood of which, roundish, or hemisphærical lumps of white cotton-

like matter appeared thickly set, and half covered above by a chesnut-coloured roundish convex scale, some of them were so near each other, as to become confluent. They were in diameter, from an eighth to a quarter of an inch, and upwards, and their height was nearly equivalent to their breadth; adhering to the bark of the vine, or to the fingers when touched by their own peculiar glutinosity: and forming cottony threads of various lengths, and very clammy, when forcibly torn away; and then discovering beneath them, an innumerable progeny of minute Cocci, upon which the old one sat, fixed, motionless, and *permanently brooding;* being incapable of relinquishing the important charges which imperious but fostering nature, had committed to her care. Perhaps no creature in existence suffers more by incubation, or, in bringing her offspring to maturity, than the female Coccus, ever sacrificing though slowly her own life, by imparting animation to her young.

The appearances above described, were perfectly novel to me, and previous to close examination, I conceived they might be occasioned by the growth of some Mucor; or, that they might be the incomplete seedlings of some species of Boletus, or Auricularia; but both those conjectures speedily vanished on considering the sound, and vegetating state of the branches on which they occurred: and by recollecting, that Fungi very rarely, if ever, present themselves, but upon such parts of other plants, as have already ceased to live.

A closer investigation of the cottony appearances

soon convinced me that they were animal, not vegetable beings; and it now required but a moderate share of entomological knowledge to suggest that they were the Coccus Vitis: for the immoveable females of that Insect, they proved to be.

Happily for us, this destructive Insect is extremely rare in England, for on searching the various entomological authors in my library, it does not appear to have been described before, as an inhabitant of this country, except by Gilbert White alone, in his Natural History of Selborne; from which is here extracted the following account of it.

"I had often observed that one particular part of a "vine growing on the walls of my house was co- "vered in autumn with a black dust-like appearance, "on which the flies fed eagerly; and that the shoots "and leaves thus affected did not thrive; nor did the "fruit ripen. To this substance I applied my glasses; "but could not discover that it had any thing to do "with animal life, as I at first expected: but upon "a closer examination behind the larger boughs, we "were surprised to find that they were coated over "with husky shells, from whose sides proceeded a "cotton-like substance, surrounding a multitude of "eggs. This curious and uncommon production "put me upon recollecting what I have heard and "read concerning the *coccus vitis viniferæ* of *Lin-* "*næus*, which, in the south of *Europe*, infests "many vines, and is an horrid and loathsome pest. "As soon as I had turned to the accounts of this "Insect, I saw at once that it swarmed on my vine; "and did not appear to have been at all checked by

" the preceding winter, which had been uncom-
" monly severe.

" Not being then at all aware that it had any thing
" to do with *England*, I was much inclined to think
" that it came from *Gibraltar* among the many boxes
" and packages of plants and birds which I had for-
" merly received from thence; and especially as the
" vine infested grew immediately under my study
" window, where I usually kept my specimens.
" True it is that I had received nothing from thence
" for some years: but as insects, we know, are con-
" veyed from one country to another in a very un-
" expected manner, and have a wonderful power of
" maintaining their existence till they fall into a
" *nidus* proper for their support and increase, I can-
" not but suspect still that these *cocci* came to me
" originally from *Andalusia*. Yet all the while,
" candour obliges me to confess that Mr. Lightfoot
" has written me word that he once, and but once,
" saw these insects on a vine at *Weymouth* in *Dor-*
" *setshire*; which it is here to be observed, is a sea
" port town to which the *coccus* might be conveyed
" by shipping.

" As many of my readers may possibly never have
" heard of this strange and unusual insect, I shall
" here transcribe a passage from a natural history of
" *Gibraltar*, written by the Reverend *John White*,
" late vicar of *Blackburn* in *Lancashire*, but not yet
" published.

" In the year 1770 (says Mr. John White) a vine,
" which grew on the east side of my house, and
" which had produced the finest crops of grapes for

"years past, was suddenly overspread on all the "woody branches with large lumps of a white fibrous "substance resembling spider's webs, or rather raw "cotton. It was of a very clammy quality, sticking "fast to every thing that touched it, and capable of "being spun into long threads; at first I suspected "it to be the product of spiders, but could find "none. Nothing was to be seen connected with it "but many *brown oval husky shells*, which by no "means looked like insects, but rather resembled "bits of the dry bark of the vine. The tree had a "plentiful crop of grapes set, when this pest ap- "peared upon it; but the fruit was manifestly in- "jured by this foul incumbrance. It remained all the "summer still increasing, and loaded the woody "and bearing branches to a vast degree. I often "pulled off great quantities by handfulls; but it was "so slimy and tenacious that it could by no means "be cleared. The grapes never filled to their natu- "ral perfection, but turned watery and vapid. Upon "perusing the works afterwards of *M. de Reaumur*, "I found this matter perfectly described and ac- "counted for. Those husky shells which I had ob- "served, were no other than the *female coccus*, from "whose sides this cotton-like substance exudes, and "serves as a covering and security for their eggs."

"To this account (continues Gilbert White) I "think proper to add, that, though the female *cocci* "are stationary, and seldom remove from the place "to which they stick, yet the male is a winged in- "sect; and that the black dust which I saw was

" undoubtedly the excrement of the females, which " is eaten by ants as well as flies. Though the ut- " most severity of the winter did not destroy these " insects, yet the attention of the gardener in a sum- " mer or two has entirely relieved my vine from this " filthy annoyance."

White's Nat. Hist. of Selborne, page 265, &c.

By the above transcription, it appears that Mr. White's Gardener cleared the vine of the Coccus, without much difficulty, or any particular application: perhaps merely by taking the Insects off with his hands. And I have nearly cleared mine, by simply rubbing the Cocci off with the fingers, and blunt ended sticks. But where they abound upon many vines, I would earnestly recommend *immediate and careful brushing of all the infested parts with a sufficiently strong, short-bristled brush, and water; repeating the operation, when it shall seem necessary:* and have no doubt but all the Cocci, so treated, will be speedily destroyed: and the trees, not injured; but absolutely benefited, by the operation.

An advertisement, which lately appeared in one of the public newspapers, strongly recommends the following nostrum for destroying those Cocci, which in many places prove so destructive to trees of various descriptions; but more especially fruit trees, in orchards, and gardens, viz.

" The *mealy Insect* which was about twenty years " ago imported from North America, has spread it- " self all through this Island, and threatens destruc- " tion to our apple trees. It may be checked, if not

"eradicated, by washing off the white down, clear-
"ing off the red stain beneath, and anointing the
"place infested, with train oil and Scotch snuff."

Now these Cocci, whose ravages are so terrible in the ideas of the uninformed, are not, we apprehend exclusively, if at all, of American origin; as they will have it: but most probably the common European Coccus adonidum of Linnæus. But illiterate people are rarely content to consider any thing as much worthy of notice unless it borders somewhat on the marvellous.

There can be no rational doubt, but those "Mealy "American Insects," or in other words, that the Coccus adonidum will be as easily vanquished, as the Coccus Vitis; and in the same manner: without the least aid from the snuff, or the oil.

Snuff may destroy insects if confined in a box, or a drawer; in the same manner as camphor: but cannot be of use in the *open air*, unless applied in immense, and consequently too costly quantities.

And as to oil, independent of the expense attending its exhibition; its use would probably be better omitted; lest a risk should be run of blocking up, and obliterating any of the perspiratory organs of the trees; although it can hardly be conceived that any essential ones, exist in those, chiefly old, parts, of trees, which female Cocci select for the purposes of performing the mysteries of their nidification. And yet they are known to live by extracting the juices of the bark, which can flow only through its pores. But perhaps, like full-fed caterpillars, they cease to take

food, when old enough to *fix* themselves *brooding*, on the branches of trees.

This however, must be left for future observers to determine; remarking in the mean time, that Lichens, Mosses and Fungi, (and why not, all other incumbrances?) on the trunks and branches of fruit trees of every description, are known to be injurious to their welfare; and are accordingly directed to be diligently taken off by writers on Horticulture.

These things considered, the public mind may be at ease, concerning these "Mealy American "scourges," and may rest assured that the "threat-"ened destruction to our apple trees," will readily yield to the common efforts of our horticultural industry.

No nation in existence understands the art of gardening in all its branches, so well as Britain now does; although the Flemings and the Dutch were long since, very far before us in this useful art; and notwithstanding the East Indians, and especially the Chinese, had been expert gardeners, many centuries, before Britain was even inhabited by mankind.

The "finger and toe" disease in Turnips is probably caused by the *suction* of some subterraneous *Coccus*, *Aphis*, or *Chermes;* although my friend Spence in his letter just published thereon, thinks it is occasioned by some "biting" (maxillated) insect in feeding, or depositing eggs. In the latter cases some *traces* of bitings or nidi, would be visible; (for vegetable lacerations usually enlarge themselves,) but in the case of exhaustion by *suction*, none; while the

remaining mischief might be as Mr. S. describes. Turnip galls are I conceive the nidi of a Tenthredo.

But to return. Perhaps there are no Genera of insects so little understood; or so superficially described, as those of Coccus, and the closely allied ones of Aphis, and Chermes. They are at this present time, to Entomology, what Fucus and Conferva, till lately, were said to be, to Botany: viz. "The "opprobrium of the science."

The species of the genus Coccus enumerated by Linnæus in his Fauna Suecica, in the year 1761, are twelve in number, and Fabricius in his Systema Rhyngotorum published in 1803, has increased the number to twenty-nine: but very few of them, (like the species of Aphis, and Chermes) have any specific characters, or descriptions affixed: neither Linnæus, nor his celebrated pupil, having yet been able to describe them further, than by naming them, from the plants on which they are found; and adding a few synonyms and their native country. Further than this nearly the whole of them remain *undescribed:* so that our dim knowledge of these insects, obscures the brightness of the entomological science; and thus far at least, defies its powers.

The species of Coccus, indigenous and exotic, known to me, are few indeed, being only six in number. An account of them however, is here subjoined, to which are added, their essential, and natural generic characters from Fabricius; and an attempt at their specific ones; with which this Essay will close; hoping that the slight information it may afford, will induce some more fortunate member of

this society, to penetrate into these untrodden paths of the science, further than any opportunities have yet enabled the writer of this to do.

COCCORUM ENUMERATIO ATQUE DESCRIPTIONES,
Qui in Musæo nostro reperiuntur.

Classis Hemiptera, Linn.
——— Rhyngota, Fab.

CHARACTER GENERICUS.

Coccus. (Scale Insect.) *Rostrum* vagina setaque pectoralibus.
Antennæ filiformes.

CHARACTER NATURALIS.

Cocci corpus parvum maris oblongum, immarginatum, agile, *capite* ovato, exerto, oculis parvis, rotundatis, prominulis, *antennis* filiformibus, distantibus, inter oculos insertis, *thorace* ovato, plano, lævi, *abdomine* ovato, *ano* stylato setisque duabus elongatis, *alis* duabus deflexis, abdomine longioribus, membranaceis, *pedibus* brevibus, cursoriis, colore plerumque virescente, feminæ corpus globosum, tardum, tandem immobile, apterum, glabrum, plantarum corticibus adhærens.
Fab. Rhyngota, 306.

Cocci mares alati volatu saliunt, feminæ apteræ, tardæ, gravidæ, plantis adhærent fere immobiles. *Fab. Rhyngota*, 309.

CHARACTERES SPECIERUM.

Vitis. Coccus (Vine Scale Insect) testâ subrotundâ convexulâ castaneâ trilineari, lanâ copiosâ glutinosâ circumcinctâ.

Coccus Vitis. *Linn. Syst. Nat.* 2. 741. 16.

——— *Fab. Rhyng.* 310. 24.

Habitat in ramis Vitis viniferæ per totam æstatem, at in Angliâ feliciter rarius.

2. *Palmæ.* Coccus (Palm) testâ rufo-fuscâ unicolore, ovali-convexâ rugulosâ lineâ dorsali fasciisque duabus elevatis transversis.

Coccus Aonidum. *Syst. Nat. Gmel.* 2215. 2?

Habitat in Palmæ foliis Horto Chelseiano, copiose.

Pestis morbida, fœda.

Long. Corp. 2 lin. lat. $1\frac{1}{4}$.

3. *Hesperidum.* Coccus (Common) testâ late ovali convexiusculâ lævi ferrugineâ, margine toto pallido.

Coccus Hesperidum. Hybernaculorum.

Linn. Faun. Suec. 1015.

Fab. Rhyng. 306. 1.

Crusta ovalis, depressa, cymbiformis patellæ instar, postice emarginata, pro lubitu pedes exserens et retrahens. *Linn. l. c.*

Habitat in Caldariis, fere omnibus plantis exoticis. Pestis intolerabilis, per totum annum.

Long. Corp. 1 lin.

Variat corpore duplo longiore; forte fœmina.

4. *Adonidum*. Coccus (Mealy) rufo-farinaceus, pilosus.

Linn. Syst. Nat. 2. 740. 4.

Fab. Rhyng. 307. 4.

Habitat in Europæ hortorum Caldariis arboribus variis; pestis vulgatissima, eximia.

Obs. As this species thrives best in a hothouse, it is probably different from the "mealy American insect" which Mr. Spence in his above-mentioned "letter" thinks is the Aphis lanigera of Hausman; but "the mealy insect" differs much from genuine Aphides, as well as from true Cocci. Both these genera must be divided.

5. *Cacti*. Coccus (Cochineal) depressus, tomentosus, transverse rugosus, dorsi margine laterali utrinque duplici: superiore breviore, abdomine purpurascente, pedibus brevibus nigris, antennis subulatis, corpore tertia parte brevioribus eximie tinctorius.

Syst. Nat. Gmel. 2220. 22.

Fab. Rhyng. 311. 27.

Long. Corp. 2 lin. lat. 1½.

Habitat in Americæ Cactis Opuntiis.

6. *stipulæformis*. Coccus (Stipule-shaped) testâ subauriformi gibbosâ, pallidâ, fasciâ regulari prope marginem circiter 12 maculis oblongo-ovalibus rufis compositâ, margine ipso albo cartilagineo dentato.

Long. Corp. 2½ lin. lat. 1½.
Habitat Indiæ orientalis arboribus, stipulam earum simulans.

Obs. My botanic friend R. A. Salisbury, Esq. communicated this new species of Coccus to me, from Sir Joseph Banks's Herbarium, to which it was sent on specimens of East Indian trees, by Dr. Buchanan, in February 1806; and was at first sight, mistaken for one of their stipulæ.

OBSERVATION.

Since the foregoing account was written, I have found the very branch of the forced vine above described, to be considerably infested with young Cocci, of an oval oblong shape, and a line, or upwards in length; the smallest of them of a silvery colour, with a darker disk; the larger, turning fulvous with lighter margins; the whole perfectly motionless, and destitute of cottony appearances. They are the young of Coccus Hesperidum, the common Scale Insect, which however, I never saw upon the vine before: but they may be destroyed in the same manner as is recommended above for the Coccus Vitis.

Obs. Several other species of Coccus have recently been sent to me, but I have not at present leisure to determine what they are.

XII. *Remarks on Staphylinus tricornis, by the Rev.* J. BURRELL, *F. L. S. & F. E. S. in a Letter to the President, May* 1810.

Read April 2, 1811.

SIR,

IF the following particulars be at all new to you and the Members of the Society, I shall feel pleasure in having communicated them. They relate to subjects that are not altogether new, but which may be ranked at present amongst the scarce Insects of this country.

On Easter Tuesday, the 24th day of April 1810, the sun not very brilliant, and at times obscured by intervening clouds—the wind blowing somewhat strong from the north-east—the following observations occurred to me as walking on the Sand Hills near the Sea at Cley, in Norfolk.

I had reached the hills just as the tide began its ebb; and in about half an hour a large level between two of the hills which skirt the harbour was left free from water, and sufficiently firm for me to walk over: in doing so, I observed an innumerable number of a red-elytroned Staphylinus actively running to and fro on the plane surface, and exploring every small hole which they found in the interstices, where the sand appeared between the Confervæ, which had been left

by the tide profusely spread in thin layers upon the level. They were evidently in search of prey or their females.

On taking up some of these Insects they proved to be males of Staphylinus tricornis. Not a female was visible. I attentively watched the proceedings of those on the sand, presently observed one of these Insects insert its head into a hole, of a diameter equal to that of a swan's quill, and endeavour to draw something out of it. The first attempt was unsuccessful. In a second it brought a female half out of the hole, their maxillæ appeared locked in each other. This attempt however proved also abortive, and he made a third attack, in which he completely succeeded in drawing the female from her burrow, and to the distance of one inch further, when he shifted his maxillæ to the back of her head, and laid his body parallel to hers: She suddenly extricated herself and fled into her hole, pursued close by the male, and on immediately digging after them I caught them in coitu.

After this, I sought for other females, but succeeded in taking only two. The holes sometimes declined into the sand at an angle of 45 degrees, and sometimes ran parallel with the surface about half an inch below it—in either case extending two or more inches in length—and whenever I lost the trace, it terminated in very moisture—consequently these Insects may be truly accounted aquatic, or rather subaquatic, i. e. inhabitants of the soil beneath the water.

The hills themselves afforded me but few Insects: a solitary specimen of Cicindela hybrida I saw, and

its capture pleased me, as I had never before seen this Insect alive, nor heard of its being taken in this county, except on similar sand hills near Yarmouth, a distance of thirty or forty miles from the place I was now examining. Opatrum tibiale was in abundance on the Lichen rangiferinus (Reindeer Lichen) which grows on the top of these almost barren hills. Does this plant afford food to the Opatrum? I think it probably does; and this opinion I more readily adopt, because Mr. Curtis, of Norwich, found the same Opatrum, last summer, on a heath at Great Witchingham, in this county, where this Lichen abounds: he however observed the Insect only on the sandy entrance of rabbit burrows, probably resting there from flight. I was so fortunate as to meet with a pair in copulatione. The sexes have no distinguishing mark, except that the abdomen of the female was a little broader and flatter, and the elevated line on the thorax somewhat longer. Of this elevated line neither Fabricius nor Marsham has taken any notice. Hence I have been led sometimes to doubt whether the Insect which Norfolk Entomologists have considered as tibiale, be truly so or not. Marsham has adopted the specific character of Fabricius, and also his description; though in the latter he has inserted "Elytra lineis elevatis obsoletis rugosa;" but still I should propose an amendment in the description, if I am now considering the same Insect which they have named O. tibiale. I would have written,—

Descr. Totum nigrum, minutissime punctulatum. Thorax linea dorsali dimidiata et punctis duo-

bus elevatis lævibus nitidis. Elytra lineis elevatis obsoletis rugosa. Tibiæ anticæ basi bidentatæ, apice compressæ, triangulares.

Or, in English, The whole Insect black, minutely punctulated. Thorax with an elevated line from base to centre, and on each side of its termination two elevated points, which line and points are smooth and shining. Elytra rugose with obsolete elevated lines. The fore tibiæ bidentated at the base, at the apex compressed and triangular.

I captured also two or three species of Coccinella on the top of the hill; and, under the Confervæ which a former tide had left conglomerated on the margins of the harbour, a few specimens of Tenebrio cadaverinus. The beautiful Carabus (Scarites thoracicus of Fabr.) was in some plenty under the Confervæ, and also running on the sand with the Staph. tricornis. The golden hue which appeared so brilliant when the sun shone upon it, would justify the change in Fabricius's specific character from simply æneus to compound aureo-æneus, and in English I would describe it,

Gen. Carabus *Linn.* Scarites *Fab.*

Specific character.

Thoracicus. C. golden-æneous, thorax sub-globose, elytra punctato-striated.

J. Burrell.

Additional Note by Mr. Haworth, July 1810.

The circumstances detailed in the foregoing letter will be found interesting to the physiological Entomologist in several particulars; but more especially in diffusing new light concerning the use of the cor-

neous processes with which Nature has furnished many Coleopterous Insects; and which (consonant to all analogy) are ever the most powerful in the male sex. These horns usually arise from some part of the head, thorax, or legs; and have been supposed chiefly useful to these creatures when boring in the ground, or wood; for the purposes of feeding, or nidification. But from Mr. Burrell's statement of the preceding facts, it appears that, in Staphylinus tricornis, at least, the male of which alone is armed, these weapons are principally for the purpose of enabling him to overcome his reluctant female, in her subterraneous retreats.

Since the letter was read to the Society, Mr. Burrell has observed, a variety of the male of Staphylinus tricornis with the cornua shorter than the head, although they are usually longer than the head; and he is almost inclined to think that the short-horned specimens may be neuters, as in Bees and Ants.

In this opinion I coincide with him, and even conceive that such neuters are far more frequent, even in the Hymenopterous tribes, than has hitherto been imagined.

A. H. HAWORTH.

XIII. *Remarks on some rare Insects found during a Flood at Wisbech, by Mr.* W. Skrimshire, *Jun. F. E. S.*

In the summer of 1807 I met with a vast variety of Coleopterous Insects in a situation and under circumstances so peculiar that I trust a relation of the facts, with a catalogue of the insects so discovered, will claim the attention of the Entomological Society, and excite the curiosity of its members to investigate similar habitations, for the interesting objects of our research

The heavy rains which occurred in the early part of the summer of 1807, occasioned a torrent of water to rush down the river Nene, which arises in the upper part of Northamptonshire, and runs through Wisbech to the sea. Between Peterborough and Wisbech are extensive marshes, great portions of which are covered with reeds and osiers. These were overflowed, and the force of the torrent broke down great quantities of the old reeds that had stood through the previous winter. These reeds were borne down the stream, and lodged upon the shore of the river below the town of Wisbech. During two or three last days of this land flood, the sun shone very bright, and I observed innumerable quantities of Coleopterous Insects upon the surface of vegetable exuviæ on the shore. The variety of them induced me to order two wheel-barrows full of the reeds, &c. to be brought

home, that I might examine their contents more at my leisure. This refuse being placed in a washing-tub half filled with water, the aquatic Insects made their way into the water, and the others immediately crawled to the upper part of the reeds, from whence if they were not securely taken, they soon took wing and escaped.

Many of the Insects in the following catalogue were in astonishing multitudes, whilst in a few species there were only single specimens to be found.

WM. SKRIMSHIRE, Jun.

A Catalogue of Coleopterous Insects collected in a few Hours at Wisbech.

I. Scarabæus. A. Terrestres. * Scutellati.

1. *mobilicornis*. *M.* 1. 6. 3. *Fab. Eleut.* 1. 24. 7. *Panz. Faun. Germ.* 12. *t.* 2. *Mart. t.* 4. *f.* 40. 41.

Of this curious insect I found five specimens, two males and three females. A few years ago I was so fortunate as to take a pair on the wing at Wisbech, between nine and ten o'clock at night, in the beginning of July.

The specimens discovered here are more ferrugineous than usual, especially the females.

2. *quadridens*, thorace quadridentato, capitis cornu

elevato simplici, corpore ferrugineo. *Fab. Eleut.* 1. 23. 6. *Panz. Faun. Germ. t.*

Of this species, which I believe is quite new to Britain, I found a pair, male and female.

3. *erraticus. M.* 1. 9. 5. *Panz. Faun. Germ.* 47. *t.* 4. *Mart. t.* 4. *f.* 37.
Syn. *Aphodius erraticus. Fab. Eleut.* 1. 72. 21.

4. *fimetarius. M.* 1. 10. 7. *Panz. Faun. Germ.* 31. *t.* 2. *Mart. t.* 3. *f.* 22.
Syn. *Aphodius fimetarius. Fab. Eleut.* 1. 72. 19.

5. *conflagratus. M.* 1. 11. 10. *Panz. Faun. Germ.* 47. 2. *Don. Brit. Ins. t.* 70. *f.* 2.
Syn. *Aphodius conflagratus. Fab. Eleut.* 1. 72. 20.

6. *conspurcatus. M.* 1. 12. 13.
Syn. *Sc. sticticus. Panz. Faun. Germ.* 58. 4. *Aphodius conspurcatus. Fab. Eleut.* 1. 73. 22.

7. *sphacelatus. M.* 1. 15. 20. *Panz. Faun. Germ.* 58. 5.

8. *Fossor. M.* 1. 16. 24. *Panz. Faun. Germ.* 28. 4. *Mart. t.* 3. *f.* 30.
Syn. *Aphodius Fossor. Fab. Eleut.* 1. 67. 2.

9. *terrestris. M.* 1. 17. 26. *Panz. Faun. Germ.* 47. 3. *Mart. t.* 2. *f.* 14.
Syn. *Aphodius terrestris. Fab. Eleut.* 1. 71. 13.

10. *subterraneus. M.* 1. 18. 29. *Panz. Faun. Germ.* 28. 3. *Mart. t.* 4. *f.* 33.
Syn. *Aphodius subterraneus. Fab. Eleut.* 1. 72. 18.

11. *plagiatus. Panz. Faun. Germ.*
Syn. *Aphodius plagiatus.* muticus, niger, elytris plaga rufescente. *Fab. Eleut.* 1. 79. 47.

Habitat in stercore.

This pretty little Insect, which I expect is new to Britain, was first discovered this summer at Wisbech, by my Pupil, Mr. J. R. Weatherhead, an ingenious and industrious Entomologist.

12. *stercorarius. M.* 1. 20. 32. *Fab. Eleut.* 1. 24. 10. *Panz. Faun. Germ.* 49. 1. *Mart. t.* 3. *f.* 25.

13. *arenarius. M.* 1. 25. 41.
Syn. *Trox arenarius. Fab. Eleut.* 1. 111. 6.

Of this insect I found but one specimen.

14. *luridus. M.* 1. 27. 45. *Panz. Faun. Germ.* 47. 6. *Mart. t.* 3. *f.* 23.
Syn. *Aphodius luridus. Fab. Eleut.* 1. 76. 37.

15. *merdarius. M.* 1. 30. 52. *An Panz. Faun. Germ.* — — ?
Syn. *Aphodius merdarius. Fab. Eleut.* 1. 80. 52.

** Exscutellati.

16. *nuchicornis. M.* 1. 32. 57. *Panz. Faun. Germ.* 4. 1.
Syn. *Copris nuchicornis. Fab. Eleut.* 1. 50. 90.

B. Arborei.

17. *Melolontha. M.* 1. 36. 65. *Panz. Faun. Germ. Mart. t.* 2. *f.* 12.
Syn. *Melolontha vulgaris. Fab. Eleut.* 1. 161. 6.

18. *Horticola. M.* 1. 44. 78. *Panz. Faun. Germ.* 47. 15. *Mart. t.* 4. *f.* 43.
Syn. *Melolontha Horticola. Fab. Eleut.* 1. 175. 88.

IPS.

I. scolytus.

DERMESTES.

D. Pellio.
D. scarabæoides
D. bipustulatus
D. melanocephalus
D. similis
D. piceus

HISTER.

H. unicolor
H. parvus
H. bimaculatus
H. striatus

CISTELA.

Cis. Pilula
Cis. sericea
Cis. picipes
Cis. maritima

SILPHA.

Sil. obscura
Sil. rosea
— polita

NITIDULA.

Nit. bipustulata?
Nit. æstiva

CASSIDA.

Cas. viridis
Cas. nebulosa
Cas. ———-

COCCINELLA.

Coc. 19-punctata
Coc. 4-verrucata

CHRYSOMELA.

Ch. hæmoptera
Ch. graminis

Ch. fulgida? *Fabr. Eleut.*
Ch. Phellandrii
Ch. Polygoni
Ch. Betulæ
Ch. Hypochæridis
Ch. aerata
Ch. nemorum

AUCHENIA.

Auch. melanopa

CRIOCERIS.

Cr. calmariensis

CURCULIO.

leucostigma
C. Alni
C. nigrirostris
C. rigidus
C. urticæ
C. semicylindricus
C. pilosulus
C. triguttatus
C. diffinis
C. argentatus
C. cnides
C. oblongus
C. colon

CLERUS.

Cl. violaceus
Cl. quadra

LEPTURA APPENDICULATA.

Lept. discolor
Lept. simplex
Lept. palustris
Lept. ———
Lept. Festucæ

ELATER.

El. obscurus
El. murinus

CICINDELA.

Cic. semipunctata
Cic. biguttata

PARNUS.

P. prolifericornis.

This Insect was in greater profusion than others, there being many hundreds.

HETEROCERUS.

Het. marginatus
Het. lævigatus *Panz.*

HYDROPHILUS.

Hy. caraboides
Hy. fuscipes
Hy. orbicularis
Hy. lividus
Hy. bipunctatus

Hy. minutus
Hy. impressus
Hy. stagnalis
Hy. affinis
Hy. nubilus
Hy. cicindeloides
Hy. ———

DYTISCUS.

Dyt. striatus
Dyt. bipunctatus
Dyt. minutus
Dyt. humeralis
Dyt. melanocephalus
Dyt. trifidus
Dyt. ruficollis
Dyt. interpunctatus
Dyt. excavatus of Kirby's MS.
Dyt. new, larger than excavatus, and the punctures shallower. Unnamed.

CARABUS.

Car. meridianus
Car. melanocephalus
Car. vulgaris
Car. communis
Car. madidus
Car. piceus
Car. littoralis
Car. Doris
Car. bipunctatus
Car. meridianus
Car. 4-guttatus
Car. multipunctatus
Car. cephalotes
Car. distans
Car. remotus
Car. lutescens. *Panzer.*
Car. vespertinus. *Panz.*

LYTTA.

Lyt. antherina

MORDELLA.

Mor. picea
Mor. biguttata *var.*
Mor. ruficollis

STAPHYLINUS.

St. maxillosus
St. riparius
St. politus
St. piceus
St. canaliculatus
St. marginatus
St. elongatus
St. rufipes
St. nitidulus
St. obtusus
St. merdarius
St. conicus
St. ———
St. ———
St. ———

FORFICULA.

Forf. auricularia

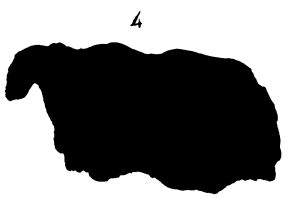
Additional Note by Mr. Haworth.

That many land Insects may be caught during sudden floods, and by watching flowing streams for drowning stragglers, and by shaking others off their food, into waters, few Entomologists are sufficiently aware: and still fewer will be able to conceive or explain, how the mighty host recorded in Stowe's Chronicle had gathered together in the "swift Severn," to perish in countless millions.

The following is his account of this extraordinary occurrence, verbatim et literatim:

"The foure and twentie of February, at Tewkes-
"bury a strange thing happened, after a flood which
"was not great, in the afternoone there came downe
"the river of Severne great numbers of Flies and
"Beetels, such as in summer evenings use to strike
"men in the face, in greate heapes, a foote thick
"above the water, so that to credible men's judge-
"ment there were within a paire of bytes length of
"those Flies above a hundred quarters. The Milles
"thereabout were dammed up with them for the
"space of four daies after, and then were cleansed
"by digging them out with shovels: from whence
"they came is yet unknowne, but the day was colde
"and a harde frost."

Stowe's Chronicles, printed in black letter 1597.



E.P. Neale . del. Sc

XIV. *Observations on the Study of Entomology; with a short Account of the early Stages of Bombyx Versicolor.*

By Mr. J. P. Neale, F. E. S.

In presenting the annexed Plate of Bombyx Versicolor, I am induced to lay before you the particulars relating to the capture of this rare and beautiful Insect, with some remarks on the present state of the study of the Order Lepidoptera. It is with great pleasure I observe that of Entomology to be rapidly increasing in this country; and I look forward with sanguine expectations, from the number of provincial Entomologists, that it will be found probably in our time to exceed the greatest exertions of our Continental brethren. I contemplate with satisfaction the knowledge probably to be attained from so many gentlemen pursuing the study of Entomology. That in such a wide field a variety of opinions will ever exist, common observation leads us to expect, as also that in all probability science will be benefited by such difference; but when *nearly* the whole of our scientific Entomologists turn their attention to every branch, to every class, but Lepidoptera, there is less wonder that this path has been so little trodden, as every one at all acquainted with Entomology will admit; but that there is much to do, is equally certain; and it is also a fact, that the imputed ignorant, plodding col-

lector has done more to the advancement of this department practically, than those who have studied the subject with scientific exactness. I trust I shall be excused proceeding thus far, attached as I am to the study, and wishing as I do, every part of this interesting science to be equally regarded, and regretting that we have so few modern works which include faithful representations and authentic descriptions of Insects in their different states. Such works need not fear encouragement, and would supersede a periodical publication deficient in these particulars, and which for the want of the exertions of individuals has been suffered to intrude itself on the public.

The Larva of Bombyx Versicolor here delineated was beat off the Birch in Darent wood, near Dartford in Kent, June 6th, 1805; and as I generally make drawings of all the Larvæ (falling in my way) that I am not thoroughly acquainted with, I have opportunities of ascertaining with precision every species I am fortunate enough to rear. This Larva was placed in a cage, and continued to feed until July the 8th; it then began to spin amongst the dead leaves, mixing the earth and leaves in a web like Noctua Sponsa and N. Nupta. The cage that contained the Chrysalis was kept in a room wherein there was seldom any fire. This circumstance is mentioned, because a Collector has since had two of the same Larvæ, both of which came forward much crippled, and which I impute to no other cause than the cage being kept in too warm a room, hardening the earth and absorbing the moisture necessary to their

complete evolution. I am by no means prepared to say that warmth will not sometimes, in some species, have the desired effect of forcing an Insect, at an earlier period and perfect; but I am certain such treatment more frequently causes its destruction. The perfect Insect of the above-mentioned Larva appeared the 20th of March following. In its action this Moth differs materially from others in this class. In an early hour in the day, when I was about to terminate its existence, it suddenly flew with great swiftness from its place of confinement, and I should have lost my prize had not the window an instant before been closed. It continued fluttering against the glass until it was caught. From that to the present period I have continued to search for more Larvæ of this Moth; but my endeavours were ineffectual till the spring of 1810, when in the same wood I beat another, but from some accident it never afterwards fed. The two before alluded to were taken in the same wood, and a third (a female) by another person, who was fortunate enough to rear her. I am not of opinion, although it is surnamed "the Kentish Glory," or "the Glory of Kent," that it is by any means confined to that county; for in the summer of the same year a large and beautiful female specimen was taken in Surry, and it now enriches the extensive collection of English Lepidoptera of my friend Mr. Hatchett, who has permitted me to make a drawing of it for the annexed plate, and favoured me with the following note:

"Taken in the winged state, April 15th, 1810, "on an Alder stump by the person dwelling at the

"cottage, in Combe wood, from whom I received "it next day alive.

(Signed) "J. HATCHETT.

"Kingsland, Nov. 12th, 1811."

Additional Note by Mr. HAWORTH.

The males of Bombyx Versicolor fly by day in the manner of Bombyx Quercus, hunting the sluggish females, which are incapable of easy flight, on account of their heavy bodies, and their wanting the spiral spring and socket of the males at the base of the upper wings. There is no doubt but the males "*assemble,*" in the manner of the Egger and Vapourer Moths, &c. in the vicinity of female Pupæ about to hatch.

LP Néau del. et lith.

XV. *An Account of some rare British Moths; with Descriptions from* Lepidoptera Britannica.

By J. Hatchett, F. L. S. and F. E. S.

With a Plate.

1. *Pyralina* Noctua. (The lunar spotted Pinion) alis rufo-purpureis strigis saturatioribus præundatis; lituraque postica sublunari costali alba.

Lep. Brit. 247.

Noctua Pyralina. *Hüb. Schmet. Noct.* 42. 203.

Tab. nost. 9. *f.* 3.

Expansio alarum 16 lin.

Obs. This insect was taken in the year 1810, in the vicinity of London. After a careful research I have not met with it in any collection, british or foreign, neither does it appear to have been figured as british; but that assiduous Lepidopterist Hübner's figure accords with it in every respect. I have therefore little hesitation in pronouncing it new to Britain.

2. *geminipunctata.* Noctua. (The twin-spot Wainscot) alis rufo-fuscescentibus, vitta lata rufa marginis tenuioris, punctoque parvo geminato niveo loco stigmatis postici.

Lep. Brit. 176.

Tab. nost. 9. *f.* 1.

Expansio alarum

Obs. I took this rare species by mothing in the dusk of the evening in the month of August 1796, in the marshes near Hackney leading to Temple Mills. I have since frequently tried the same place at the same time of the year, in the hope of capturing others, but without success, till last year, when I took another exactly similar to the first. Excepting the above-mentioned specimens, I have sought for it in vain in numerous richly stored cabinets, and am therefore induced to give it as new to Britain.

3. *conversaria.* Geometra. (The large Carpet) alis griseis, fusco-atomosis, fasciâ latâ communi nigricante, extus obtuse biangulata.

Lep. Brit. 302.

Geometra conversaria. *Hüb. Schmet. Geom.* 62. 321.

Tab. nost. 9. *f.* 2.

Expansio alarum

Obs. It appears that this elegant species exists in few of the many rich collections of British Lepidoptera this country can boast of. A specimen in the extensive cabinet of British Insects of Mr. Francillon; another, exhibited by Mr. Leach to the Entomological Society of London, taken in Devonshire; and the one here figured, form the whole I have yet heard of. I received it last summer from a friend in Devonshire, who caught it near Kingsbridge.

XVI. *Account of* TENEBRIO MAURITANICUS, *by* Mr. KIRKUP; *communicated by* Mr. J. SURR, V.P.E.S.

Read June 2, 1812.

THE following history of the Tenebrio Mauritanicus of Linnæus, Marsham, &c. was transmitted to the Vice-President, along with the Insect, by the Rev. Mr. MORGAN, Librarian of Dr. Williams's Library, Red Cross Street. It is rarely if ever captured at large in England, and was perhaps originally introduced along with dry imported fruits. A few specimens taken on board the Solebay frigate were transmitted to the President, from Sierra Leone, by his son: And the former conceives that he has seen the larva feeding on a parcel of Earth Nuts (Arachis Hypogæa) which were also sent to him from Africa.

Dear and Rev. Sir,

In answer to your inquiries respecting the insect presented to you by my daughter Georgiana, the following particulars are all that I am able to learn. It was found on Good Friday, 1809, as a Maggot in a common Spanish Almond, its appearance differing from those found in our nuts or filberds; being whiter and longer, but more slender in its body,—with a small black head. It was lively and alert. My Daughter placed it in a small Tunbridge box with its native Almond, in which state it remained about fifteen months, viz. till the month of July 1810, du-

ring which time nothing particular was observable, but its constant repugnance to light or air; for on the box being opened it always sheltered itself in or under the pieces of Almond. A few weeks before it assumed its present form, it was found to have buried itself entirely in the largest piece of the Almond, on the breaking of which it was discovered in a sickly and weak state, and its colour changed to a dingy disagreeable yellow, and with little animation. A few days after it became apparently inanimate, and so remained for three or four weeks, gradually becoming darker, but without assuming the form of a Chrysalis. Not having seen it for some days, its young Fosteress was surprised and pleased to find it in its present form alive and active. There was no hull or shell to be perceived, though minutely looked for. It retained its present form till its death, which did not take place till the end of February in the present year 1812, forming a period of nearly three years from its first discovery, (viz. about fifteen months as a Maggot, and one year and nine months in its present state,) exclusive of its term of existence previous to the breaking the nut, which most probably was many months. It is supposed that it fed on the Almond in both its states, as the bottom of the box was always observed to be covered with a yellow dust, or globules very small. In its present form it was very susceptible of cold, though with a great deal of care and attention it existed through two severe winters. On its first encountering the frost it was found on its back apparently dead; but on my daughter's breathing on it for some time it recovered, and she took good care to

place it for the remainder of that and the succeeding winter in a warm situation. These, my dear Sir, are all the particulars I can learn. The only thing which appears to me singular in the history of this insect is the duration of its life in its present form,—though it is well known that the genus of insects of which this is a specimen of a minor species, sustains life for a great length of time, but that is in the grub or maggot state; for their period of existence after they take wing is very short, scarcely surviving the act of coition. Quere. If the duration of life in the present instance (viz. 21 mo.) may not be referred to its sexual seclusion? This I leave to be determined on by men more enlightened than myself.

I remain, dear Sir,

With great respect and esteem,

Your most obedient humble servant,

Jos. Kirkup.

Harpur-street,
5th May, 1812.

To the Rev. Thomas Morgan.

Additional Note by Mr. Hawdrth.

Although the Tenebriones are said to enjoy a greater longevity than many insects, the seclusion of the article in question from sexual intercourse, was in all probability, the principal cause of its protracted existence; which must have been rendered unusually comfortable and secure, from the interesting solicitude of its little benefactress.

XVII. *A brief Account of some rare Insects announced at various times to the Society, as new to Britain.*

By A. H. Haworth, P.E.S., &c.

*Those marked with an * are presumed to be new.*

Read June 2, 1812.

1. *Apollo.* Papilio. (The crimson-ringed) This is mentioned as a doubtful native in the preface to Lepidoptera Britannica; but my friend W. J. Hooker, Esq. informs me it has recently been taken in the hebridal island, Lewes.

2. *Hero.* Papilio. (Silver-bordered Ringlet.)
Linn. Faun. 1047. *nec Donov. vel Lewin.*
This species is now known to inhabit Sussex.

3. *Mnemon.* Papilio. (The small Ringlet) alis supra nigro-fuscis, fascia postica communi annulari, annulis coccineis.
Habitat in Scotia.
Obs. Statura et magnitudo Pap. Pamphili. *Alæ anticæ supra* annulis quatuor, horum tertius dimidiatus et aliquantillum exterior. *Posticæ alæ* annulis tantum duabus, viz. secundus et quartus anticarum alarum. *Subtus* alæ cupreo-fuscæ, *anticæ* punctis subtribus fere evanescentibus fuscis fulvo obscurè circumcinctis, loco annulorum: *posticæ* fere omnino impunctatæ.

In Museo Dom. Francillon, a captore Dom. Stoddart.

Obs. I have not found any account of this species in the works of Fabricius, Hübner, Herbst, or any other author in my possession.

4. *Thalia.* Papilio. (The Wedge Pearl-border.)
Hüb. Schmet. 11. 57. 58.
I have an English specimen of this rare and beautiful insect; which is, perhaps, a very extraordinary variety only of P. Euphrosyne. A minute description of it, and of the following Lepidoptera, will appear in the fourth and last part of Lep. Br. as soon as Mr. W. Savage, who purchased the complete manuscript some years ago, chooses to publish it.

5. *Eos.* Papilio. (The dark-underwinged Fritillary.)
Lep. Br. 35. 43.
Notwithstanding the amazing difference between this insect and P. Dictynna, I am now rather inclined to think it will eventually prove a variety only of that species.

6. *Hippothoe.* Papilio. (The dark-underwinged Copper.)
Linn. Faun. 1046?
I have an English specimen, but reserve the minute description of it, and the following, for the appendix to Lep. Brit.

7. *Amandus.* Papilio. (The black-bordered Blue.)
Papilio Amandus. *Hüb. Schmet.* 59. 283. 284.
I have several English specimens.

8. *Tithonus.* Papilio. (The pale Blue.)
Hüb. Schmet. 108. 555. 556?
I have one English specimen of this, and also one of each of the two following.

9. *Spini?* Papilio. (The pale-brown Hairstreak.)
Hüb. Schmet. 75. 376. 377?

10. *Vitellius.* Papilio. (The bordered Skipper.)
Hesperia Vitellius. *Fab. Ent. Syst.* 3. 327. 240.
Has been caught in Bedfordshire, by the Rev. Dr. Abbott. I have specimens of the same, and likewise of the following from Georgia.

11. *Oileus.* Papilio. (The Georgian Grizzle.)
Gmel. Syst. Nat. 2370. 269?
Obs. Has also been caught in Bedfordshire, by the Rev. Dr. Abbott: and is in Leman's ancient English cabinet, now in the possession of Lee Phillips, Esq. Manchester.

12. *Argentata.* Sphinx. (The silver-washed Hawk.)
A new species allied to S. celerio. A description of it will appear in Lep. Br.—From Dr. Leach's cabinet.

13. *Stomoxiformis.* Sphinx. (The great Red-belt.)
Hüb. Schmet. 7. *f.* 47.

Obs. This is the real S. Culiciformis of Linnæus,—but as most writers have given the common red-belted species for it, it may as well so remain, retaining the present Hübnerian name for this article.

14. *Dromedarulus*. Bombyx. (The small iron Prominent) supra 101. 19.

Obs. I now possess a foreign specimen of this, and find it is the B. tritophus of Fab. &c.—The tritophus of Donovan, (and of Lep. Brit. following him) is Hübner's B. tremula;—the tremula of Linn. and of Lep. Brit. is the B. Dictæa of Fab.,—and B. trepida of Donovan: but the B. trepida of Fab. is Hübner's B. tremula. Mr. Donovan has devoted no less than four pages to explain the small iron Prominent, and has changed its name to B. Zebu.

15. *Dictæoides*. Bombyx. (The lesser Swallow-Prominent.)

Hüb. Schmet. Bomb. 6. 24. 25.

A new species to England, which will be described in the appendix to Lep. Br.

16.* *denudatus*. Bombyx. (The naked White) alis omnibus subdenudatis subhyalinis, apice anticarum fusco.

Lep. Br. App. inedit.

Expansio alarum 1 unc. 9 lin.

17. *Urticæ*. Bombyx. (The dingy White.)
Hüb. Schmet. 35. *i.* 154.
I possess a specimen from Yorkshire, and another of the following, which is allied to it.

18.* *radiatus*. Bombyx. (The radiated Buff) alis anticis nigris macula magna lobata, venisque flavicantibus.
Lep. Brit. App. inedit.

19.* *hirticornis*. Noctua. (The hairy-horned Brindle) spirilinguis cristata, alis glaucescentibus: fascia abbreviata terminalique plicata: antennis hirto-pectinatis.
Lep. Brit. App. inedit.

20.* *pilicornis*. Noctua. (The downy Horned) alis cinereo-rufescentibus, vix atomosis, striga postica curvata ex punctis obsoletis fuscis 6: posticis albis.
Lep. Brit. App. inedit.
Affinis N. crassicorni.

21.* *anomala*. Phytometra. (The Anomalous) alis pallidissime fuscescentibus nigro subnebulosis, stigmatibus ordinariis pallidis divaricatis, obsolete pupillatis.
Lep. Brit. App. inedit.
Statura Phalænæ anomalatæ.

22.* *subfimbriata*. Phalæna. (The four-barred) alis cinerascentibus, fasciis 4 fuscis, ultima terminali.
Lep. Brit. App. inedit.
Expans. alarum fere 2-unc.

23.* *Populata.* Phalæna. *Linn. & Fab.—& Hüb. Schmæt. Phal. t. 58. f. 300.*

Obs. I now possess a british specimen of this, captured and communicated by Dr. Leach.—P. Populata *Lep. Brit.* 341, must retain its apt Hübnerian name of Pyraliata, being a very distinct species.

24.* *anomalata.* Phalæna? alis pallide fuscescentibus strigis tribus saturatioribus.

Lep. Brit. App. inedit.

Statura Phalænarum minutarum.

25.* *bipunctata.* Tortrix? (The Wainscot Tortrix) alis canescentibus punctis duobus, strigaque humerali atris.

Lep. Brit. App. inedit.

Statura fere T. Heracleana *Linn.*

26.* *latifasciana.* Tortrix. (The broad-barred) alis omnibus fuscis, anticis lente, fulvo obsolete atomosis, fascia latissima aurea fere in medio, obsoletissimè fusco atomosim strigata.

Lep. Brit. App. inedit.

T. Grotianæ affinis, fere duplo minor.

27.* *formosella.* Tinea. (The gold-striped Sable) alis fuliginosis; medio fasciis duabus, strigisque totidem posticis atris auro perlepidè utraque marginatis.

Lep. Brit. App. inedit.

Affinis Tineæ Oliviellæ Fab.

28. *flavifrontella.* Tinea. (The yellow-head) alis anticis cinereis immaculatis, capite fulvo.
Fab. Supp. 305. 78.
Lep. Brit. App. inedit.

29.* *decorella.* Tinea. (The neat) alis anticis capiteque niveis costa ipsa interruptim, plagaque communi niveis.
Lep. Brit. App. inedit.
Expans. alarum 6 lin.

30.* *tricolorella.* Tinea. (The tricoloured) alis nigro rufoque variis, punctis tribus albis, capite nigro.
Lep. Brit. App. inedit.
Statura præcedentis.

31.* *quadripunctella.* Tinea. (The four-dotted) alis fuscis atro medio parce punctatis, punctisque duobus posticis oppositis marginalibus albis.—Ultimæ simillima.
Lep. Brit. App. inedit.

32. *clathratus.* Carabus. apterus nigricans, elytris æneis striatis interjectis punctis excavatis cupreis.
Fab. Syst. Eleut. 1. 77.
Panz. Faun. cum icone.
I first took this in a Marsh at Halvergate, Norfolk, April 1809: since when several others have been there taken.

33. *cadaverinus*. Tenebrio. pallide testaceus elytris striatis, abdomine subtus nigricante.
Fab. Syst. Eleut. 1. 149.
Exhibited by the Rev. J. Burrell, as a Norfolk insect, July 1809.

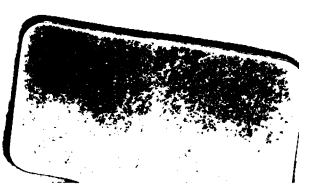
34. *crenatus*. Lyctus. niger thorace rugoso, elytris striato-crenatis: maculis duabus rufis.
Fab. Syst. Eleut. 2. 561.
I caught two specimens at Little Chelsea, July 1809.

35. *Sartor*. Lamia. thorace spinoso niger, scutello flavo, elytris immaculatis, antennis longissimis.
Fab. Syst. Eleut. 2. 294.
Panz. Faun. cum icone.
Exhibited as English by the late Mr. Fenton, July 1809.

Astragali. Apion. æneum nitidum, coleoptris oblongo-ovatis cyaneis, thorace canaliculato.
Kirb. in Linn. Soc. Tr. vol. 9. *p.* 55.
Obs. Our assiduous member Mr. John Atkinson, of Leeds, took several specimens of this beautiful species on the only root of Astragalus Glyciphyllus he could find near that place;—and exhibited them before the society, October 1809.—He also exhibited at the same time Curculio globosus of Fab. and Carabus pumicatus, and Bostrichus crenatus, of Panzer; all

taken by himself, near Leeds, along with a considerable number of other rare Insects.

Obs. As the next number of the Society's Transactions will probably contain Mr. Burrell's Norfolk Hemiptera, they are all purposely omitted here, although most of his rare species have been exhibited before the Society.

Postscript. The Genus *Fumaria* in Lepidoptera Britannica, p. 473, the readers of that work are requested to read *Fumea;* the former name being occupied by a genus of plants.

Richard Taylor and Co., Shoe-lane, London.